

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631668	3475.02	23.03	-1.3	21.73	148.94	1
633334	3500.01	23.15	-1.3	21.85	153.11	1
634998	3524.97	23.09	-1.3	21.79	151.01	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632000	3480	23.01	-1.3	21.71	148.25	1
633334	3500.01	23.07	-1.3	21.77	150.31	1
634666	3519.99	23.1	-1.3	21.8	151.36	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632668	3490.02	23.05	-1.3	21.75	149.62	1
633334	3500.01	23.07	-1.3	21.77	150.31	1
634000	3510	23.15	-1.3	21.85	153.11	1

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.12	-1.3	21.82	152.05	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.16	-1.3	21.86	153.46	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	22.17	-1.3	20.87	122.18	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	21.08	-1.3	19.78	95.06	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	19.06	-1.3	17.76	59.7	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N77(Part270)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647334	3710.01	23.08	-1.3	21.78	150.66	1
656000	3840	23.22	-1.3	21.92	155.6	1
664666	3969.99	23.28	-1.3	21.98	157.76	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647670	3715.05	23.16	-1.3	21.86	153.46	1
656000	3840	23.11	-1.3	21.81	151.71	1
664332	3964.98	23.25	-1.3	21.95	156.68	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648000	3720	23.14	-1.3	21.84	152.76	1
656000	3840	23.09	-1.3	21.79	151.01	1
664000	3960	23.3	-1.3	22	158.49	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648336	3725.04	23.1	-1.3	21.8	151.36	1
656000	3840	23.19	-1.3	21.89	154.53	1
663666	3954.99	23.18	-1.3	21.88	154.17	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648668	3730.02	23.15	-1.3	21.85	153.11	1
656000	3840	23.22	-1.3	21.92	155.6	1
663332	3949.98	23.21	-1.3	21.91	155.24	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
649334	3740.01	23.18	-1.3	21.88	154.17	1
656000	3840	23.24	-1.3	21.94	156.31	1
662666	3939.99	23.28	-1.3	21.98	157.76	1



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.15	-1.3	21.85	153.11	1
656000	3840	23.28	-1.3	21.98	157.76	1
662000	3930	23.3	-1.3	22	158.49	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.22	-1.3	21.92	155.6	1
656000	3840	23.3	-1.3	22	158.49	1
662000	3930	23.35	-1.3	22.05	160.32	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	22.03	-1.3	20.73	118.3	1
656000	3840	22.17	-1.3	20.87	122.18	1
662000	3930	22.15	-1.3	20.85	121.62	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	20.74	-1.3	19.44	87.9	1
656000	3840	20.87	-1.3	19.57	90.57	1
662000	3930	20.97	-1.3	19.67	92.68	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	18.72	-1.3	17.42	55.21	1
656000	3840	18.89	-1.3	17.59	57.41	1
662000	3930	18.91	-1.3	17.61	57.68	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N78(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
630668	3460.02	22.99	-1.3	21.69	147.57	23
633334	3500.01	23.13	-1.3	21.83	152.41	23
636000	3540	23.09	-1.3	21.79	151.01	23

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631002	3465.03	23.09	-1.3	21.79	151.01	23
633334	3500.01	23.05	-1.3	21.75	149.62	23
635664	3534.96	23.12	-1.3	21.82	152.05	23

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631334	3470.01	23.03	-1.3	21.73	148.94	23
633334	3500.01	23.09	-1.3	21.79	151.01	23
635332	3529.98	23.17	-1.3	21.87	153.82	23

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631668	3475.02	23	-1.3	21.7	147.91	23
633334	3500.01	23.15	-1.3	21.85	153.11	23
634998	3524.97	23.14	-1.3	21.84	152.76	23

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632000	3480	23.07	-1.3	21.77	150.31	23
633334	3500.01	23.24	-1.3	21.94	156.31	23
634666	3519.99	23.26	-1.3	21.96	157.04	23

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632668	3490.02	23.01	-1.3	21.71	148.25	23
633334	3500.01	23.19	-1.3	21.89	154.53	23
634000	3510	23.17	-1.3	21.87	153.82	23

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633000	3495	23.05	-1.3	21.75	149.62	23
633334	3500.01	23.23	-1.3	21.93	155.96	23
633666	3504.99	23.25	-1.3	21.95	156.68	23



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CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.14	-1.3	21.84	152.76	23

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.27	-1.3	21.97	157.4	23

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	22.17	-1.3	20.87	122.18	23

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	20.91	-1.3	19.61	91.41	23

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	18.86	-1.3	17.56	57.02	23

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

5G SRS

ANT2:

N41

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
501204	2506.02	22.96	-1.5	21.46	139.96	2
518598	2592.99	22.98	-1.5	21.48	140.6	2
535998	2679.99	23	-1.5	21.5	141.25	2

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
502200	2511	22.99	-1.5	21.49	140.93	2
518598	2592.99	23.05	-1.5	21.55	142.89	2
534996	2674.98	23.02	-1.5	21.52	141.91	2

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
503202	2516.01	22.97	-1.5	21.47	140.28	2
518598	2592.99	23	-1.5	21.5	141.25	2
534000	2670	22.99	-1.5	21.49	140.93	2

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
504204	2521.02	22.99	-1.5	21.49	140.93	2
518598	2592.99	23.01	-1.5	21.51	141.58	2
532998	2664.99	23	-1.5	21.5	141.25	2

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
505200	2526	22.93	-1.5	21.43	139	2
518598	2592.99	22.93	-1.5	21.43	139	2
531996	2659.98	22.9	-1.5	21.4	138.04	2

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
507204	2536.02	23	-1.5	21.5	141.25	2
518598	2592.99	22.99	-1.5	21.49	140.93	2
529998	2649.99	22.95	-1.5	21.45	139.64	2

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
508200	2541	22.98	-1.5	21.48	140.6	2
518598	2592.99	23	-1.5	21.5	141.25	2
528996	2644.98	22.96	-1.5	21.46	139.96	2



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CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.02	-1.5	21.52	141.91	2
518598	2592.99	22.97	-1.5	21.47	140.28	2
528000	2640	22.94	-1.5	21.44	139.32	2

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.07	-1.5	21.57	143.55	2
518598	2592.99	22.96	-1.5	21.46	139.96	2
528000	2640	22.93	-1.5	21.43	139	2

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	21.93	-1.5	20.43	110.41	2
518598	2592.99	21.82	-1.5	20.32	107.65	2
528000	2640	21.8	-1.5	20.3	107.15	2

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	20.66	-1.5	19.16	82.41	2
518598	2592.99	20.6	-1.5	19.1	81.28	2
528000	2640	20.54	-1.5	19.04	80.17	2

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	18.73	-1.5	17.23	52.84	2
518598	2592.99	18.65	-1.5	17.15	51.88	2
528000	2640	18.63	-1.5	17.13	51.64	2

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



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VERITAS**

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ANT3:
N41

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
501204	2506.02	22.92	-3	19.92	98.17	2
518598	2592.99	22.91	-3	19.91	97.95	2
535998	2679.99	23	-3	20	100	2

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
502200	2511	23.5	-3	20.5	112.2	2
518598	2592.99	23.01	-3	20.01	100.23	2
534996	2674.98	23.03	-3	20.03	100.69	2

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
503202	2516.01	22.92	-3	19.92	98.17	2
518598	2592.99	22.95	-3	19.95	98.86	2
534000	2670	22.91	-3	19.91	97.95	2

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
504204	2521.02	22.94	-3	19.94	98.63	2
518598	2592.99	23	-3	20	100	2
532998	2664.99	23	-3	20	100	2

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
505200	2526	22.93	-3	19.93	98.4	2
518598	2592.99	22.91	-3	19.91	97.95	2
531996	2659.98	22.9	-3	19.9	97.72	2

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
507204	2536.02	23.01	-3	20.01	100.23	2
518598	2592.99	22.95	-3	19.95	98.86	2
529998	2649.99	22.93	-3	19.93	98.4	2

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
508200	2541	22.99	-3	19.99	99.77	2
518598	2592.99	23.02	-3	20.02	100.46	2
528996	2644.98	22.91	-3	19.91	97.95	2



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CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.03	-3	20.03	100.69	2
518598	2592.99	22.99	-3	19.99	99.77	2
528000	2640	22.96	-3	19.96	99.08	2

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.06	-3	20.06	101.39	2
518598	2592.99	22.95	-3	19.95	98.86	2
528000	2640	22.87	-3	19.87	97.05	2

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	21.9	-3	18.9	77.62	2
518598	2592.99	21.76	-3	18.76	75.16	2
528000	2640	21.72	-3	18.72	74.47	2

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	20.69	-3	17.69	58.75	2
518598	2592.99	20.59	-3	17.59	57.41	2
528000	2640	20.52	-3	17.52	56.49	2

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	18.71	-3	15.71	37.24	2
518598	2592.99	18.65	-3	15.65	36.73	2
528000	2640	18.55	-3	15.55	35.89	2

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



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VERITAS**

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ANT4:
N77(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
630668	3460.02	22.9	-0.7	22.2	165.96	1
633334	3500.01	23.03	-0.7	22.33	171	1
636000	3540	23.05	-0.7	22.35	171.79	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631002	3465.03	23.01	-0.7	22.31	170.22	1
633334	3500.01	23.04	-0.7	22.34	171.4	1
635664	3534.96	23.1	-0.7	22.4	173.78	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631334	3470.01	22.99	-0.7	22.29	169.43	1
633334	3500.01	23.05	-0.7	22.35	171.79	1
635332	3529.98	23.13	-0.7	22.43	174.98	1



Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631668	3475.02	23.05	-0.7	22.35	171.79	1
633334	3500.01	23.14	-0.7	22.44	175.39	1
634998	3524.97	23.07	-0.7	22.37	172.58	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632000	3480	23	-0.7	22.3	169.82	1
633334	3500.01	23.07	-0.7	22.37	172.58	1
634666	3519.99	23.1	-0.7	22.4	173.78	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632668	3490.02	23.04	-0.7	22.34	171.4	1
633334	3500.01	23.06	-0.7	22.36	172.19	1
634000	3510	23.17	-0.7	22.47	176.6	1

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.11	-0.7	22.41	174.18	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.14	-0.7	22.44	175.39	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	22.16	-0.7	21.46	139.96	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	21.03	-0.7	20.33	107.89	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	18.98	-0.7	18.28	67.3	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

N77(Part270)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647334	3710.01	23.11	-0.7	22.41	174.18	1
656000	3840	23.18	-0.7	22.48	177.01	1
664666	3969.99	23.23	-0.7	22.53	179.06	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647670	3715.05	23.18	-0.7	22.48	177.01	1
656000	3840	23.19	-0.7	22.49	177.42	1
664332	3964.98	23.24	-0.7	22.54	179.47	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648000	3720	23.15	-0.7	22.45	175.79	1
656000	3840	23.15	-0.7	22.45	175.79	1
664000	3960	23.15	-0.7	22.45	175.79	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648336	3725.04	23.18	-0.7	22.48	177.01	1
656000	3840	23.14	-0.7	22.44	175.39	1
663666	3954.99	23.19	-0.7	22.49	177.42	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648668	3730.02	23.17	-0.7	22.47	176.6	1
656000	3840	23.2	-0.7	22.5	177.83	1
663332	3949.98	23.23	-0.7	22.53	179.06	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
649334	3740.01	23.22	-0.7	22.52	178.65	1
656000	3840	23.26	-0.7	22.56	180.3	1
662666	3939.99	23.27	-0.7	22.57	180.72	1



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.09	-0.7	22.39	173.38	1
656000	3840	23.21	-0.7	22.51	178.24	1
662000	3930	23.28	-0.7	22.58	181.13	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.12	-0.7	22.42	174.58	1
656000	3840	23.2	-0.7	22.5	177.83	1
662000	3930	23.33	-0.7	22.63	183.23	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	21.93	-0.7	21.23	132.74	1
656000	3840	22.01	-0.7	21.31	135.21	1
662000	3930	22.14	-0.7	21.44	139.32	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	20.77	-0.7	20.07	101.62	1
656000	3840	20.87	-0.7	20.17	103.99	1
662000	3930	20.94	-0.7	20.24	105.68	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	18.78	-0.7	18.08	64.27	1
656000	3840	18.86	-0.7	18.16	65.46	1
662000	3930	18.99	-0.7	18.29	67.45	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N78(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
630668	3460.02	23.02	-0.7	22.32	170.61	23
633334	3500.01	23.19	-0.7	22.49	177.42	23
636000	3540	23.05	-0.7	22.35	171.79	23

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631002	3465.03	23.1	-0.7	22.4	173.78	23
633334	3500.01	23.07	-0.7	22.37	172.58	23
635664	3534.96	23.1	-0.7	22.4	173.78	23

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631334	3470.01	23.06	-0.7	22.36	172.19	23
633334	3500.01	23.1	-0.7	22.4	173.78	23
635332	3529.98	23.15	-0.7	22.45	175.79	23

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631668	3475.02	23.05	-0.7	22.35	171.79	23
633334	3500.01	23.16	-0.7	22.46	176.2	23
634998	3524.97	23.11	-0.7	22.41	174.18	23

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632000	3480	23.08	-0.7	22.38	172.98	23
633334	3500.01	23.21	-0.7	22.51	178.24	23
634666	3519.99	23.22	-0.7	22.52	178.65	23

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632668	3490.02	23.02	-0.7	22.32	170.61	23
633334	3500.01	23.07	-0.7	22.37	172.58	23
634000	3510	23.15	-0.7	22.45	175.79	23

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633000	3495	23.09	-0.7	22.39	173.38	23
633334	3500.01	23.21	-0.7	22.51	178.24	23
633666	3504.99	23.23	-0.7	22.53	179.06	23

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.06	-0.7	22.36	172.19	23

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.24	-0.7	22.54	179.47	23

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	22.16	-0.7	21.46	139.96	23

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	20.86	-0.7	20.16	103.75	23

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	18.85	-0.7	18.15	65.31	23

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

**ANT5:
N41**

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
501204	2506.02	22.94	-1.1	21.84	152.76	2
518598	2592.99	22.99	-1.1	21.89	154.53	2
535998	2679.99	23.02	-1.1	21.92	155.6	2

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
502200	2511	23	-1.1	21.9	154.88	2
518598	2592.99	23.08	-1.1	21.98	157.76	2
534996	2674.98	23.01	-1.1	21.91	155.24	2

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
503202	2516.01	22.96	-1.1	21.86	153.46	2
518598	2592.99	22.98	-1.1	21.88	154.17	2
534000	2670	22.94	-1.1	21.84	152.76	2

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
504204	2521.02	22.97	-1.1	21.87	153.82	2
518598	2592.99	23.03	-1.1	21.93	155.96	2
532998	2664.99	23.01	-1.1	21.91	155.24	2

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
505200	2526	22.94	-1.1	21.84	152.76	2
518598	2592.99	22.93	-1.1	21.83	152.41	2
531996	2659.98	22.91	-1.1	21.81	151.71	2

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
507204	2536.02	23	-1.1	21.9	154.88	2
518598	2592.99	22.98	-1.1	21.88	154.17	2
529998	2649.99	22.94	-1.1	21.84	152.76	2

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
508200	2541	22.96	-1.1	21.86	153.46	2
518598	2592.99	23.01	-1.1	21.91	155.24	2
528996	2644.98	22.95	-1.1	21.85	153.11	2



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.07	-1.1	21.97	157.4	2
518598	2592.99	23.02	-1.1	21.92	155.6	2
528000	2640	22.98	-1.1	21.88	154.17	2

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	23.08	-1.1	21.98	157.76	2
518598	2592.99	22.9	-1.1	21.8	151.36	2
528000	2640	22.85	-1.1	21.75	149.62	2

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	21.89	-1.1	20.79	119.95	2
518598	2592.99	21.7	-1.1	20.6	114.82	2
528000	2640	21.69	-1.1	20.59	114.55	2

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	20.65	-1.1	19.55	90.16	2
518598	2592.99	20.58	-1.1	19.48	88.72	2
528000	2640	20.6	-1.1	19.5	89.13	2

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
509202	2546.01	18.68	-1.1	17.58	57.28	2
518598	2592.99	18.53	-1.1	17.43	55.34	2
528000	2640	18.5	-1.1	17.4	54.95	2

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

N77(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
630668	3460.02	22.98	-3.1	19.88	97.27	1
633334	3500.01	23.05	-3.1	19.95	98.86	1
636000	3540	23.07	-3.1	19.97	99.31	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631002	3465.03	23.03	-3.1	19.93	98.4	1
633334	3500.01	23.01	-3.1	19.91	97.95	1
635664	3534.96	23.09	-3.1	19.99	99.77	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631334	3470.01	23	-3.1	19.9	97.72	1
633334	3500.01	23.09	-3.1	19.99	99.77	1
635332	3529.98	23.09	-3.1	19.99	99.77	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631668	3475.02	23.03	-3.1	19.93	98.4	1
633334	3500.01	23.17	-3.1	20.07	101.62	1
634998	3524.97	23.12	-3.1	20.02	100.46	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632000	3480	23.02	-3.1	19.92	98.17	1
633334	3500.01	23.1	-3.1	20	100	1
634666	3519.99	23.13	-3.1	20.03	100.69	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632668	3490.02	23.03	-3.1	19.93	98.4	1
633334	3500.01	23.09	-3.1	19.99	99.77	1
634000	3510	23.12	-3.1	20.02	100.46	1

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.05	-3.1	19.95	98.86	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.13	-3.1	20.03	100.69	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	22.14	-3.1	19.04	80.17	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	20.98	-3.1	17.88	61.38	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	18.96	-3.1	15.86	38.55	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N77(Part270)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647334	3710.01	23.21	-3.1	20.11	102.57	1
656000	3840	23.26	-3.1	20.16	103.75	1
664666	3969.99	23.25	-3.1	20.15	103.51	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647670	3715.05	23.19	-3.1	20.09	102.09	1
656000	3840	23.22	-3.1	20.12	102.8	1
664332	3964.98	23.27	-3.1	20.17	103.99	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648000	3720	23.11	-3.1	20.01	100.23	1
656000	3840	23.16	-3.1	20.06	101.39	1
664000	3960	23.15	-3.1	20.05	101.16	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648336	3725.04	23.14	-3.1	20.04	100.93	1
656000	3840	23.16	-3.1	20.06	101.39	1
663666	3954.99	23.12	-3.1	20.02	100.46	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648668	3730.02	23.18	-3.1	20.08	101.86	1
656000	3840	23.21	-3.1	20.11	102.57	1
663332	3949.98	23.2	-3.1	20.1	102.33	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
649334	3740.01	23.2	-3.1	20.1	102.33	1
656000	3840	23.22	-3.1	20.12	102.8	1
662666	3939.99	23.26	-3.1	20.16	103.75	1



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.05	-3.1	19.95	98.86	1
656000	3840	23.14	-3.1	20.04	100.93	1
662000	3930	23.28	-3.1	20.18	104.23	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.08	-3.1	19.98	99.54	1
656000	3840	23.14	-3.1	20.04	100.93	1
662000	3930	23.31	-3.1	20.21	104.95	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	21.92	-3.1	18.82	76.21	1
656000	3840	22.01	-3.1	18.91	77.8	1
662000	3930	22.15	-3.1	19.05	80.35	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	20.74	-3.1	17.64	58.08	1
656000	3840	20.8	-3.1	17.7	58.88	1
662000	3930	20.94	-3.1	17.84	60.81	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	18.72	-3.1	15.62	36.48	1
656000	3840	18.78	-3.1	15.68	36.98	1
662000	3930	18.92	-3.1	15.82	38.19	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N78(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
630668	3460.02	23.08	-3.1	19.98	99.54	23
633334	3500.01	23.14	-3.1	20.04	100.93	23
636000	3540	23.16	-3.1	20.06	101.39	23

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631002	3465.03	23.1	-3.1	20	100	23
633334	3500.01	23.05	-3.1	19.95	98.86	23
635664	3534.96	23.14	-3.1	20.04	100.93	23

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631334	3470.01	23.18	-3.1	20.08	101.86	23
633334	3500.01	23.13	-3.1	20.03	100.69	23
635332	3529.98	23.11	-3.1	20.01	100.23	23

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631668	3475.02	23.09	-3.1	19.99	99.77	23
633334	3500.01	23.08	-3.1	19.98	99.54	23
634998	3524.97	23.16	-3.1	20.06	101.39	23

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632000	3480	23.18	-3.1	20.08	101.86	23
633334	3500.01	23.15	-3.1	20.05	101.16	23
634666	3519.99	23.2	-3.1	20.1	102.33	23

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632668	3490.02	23.12	-3.1	20.02	100.46	23
633334	3500.01	23.06	-3.1	19.96	99.08	23
634000	3510	23.14	-3.1	20.04	100.93	23

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633000	3495	23.1	-3.1	20	100	23
633334	3500.01	23.23	-3.1	20.13	103.04	23
633666	3504.99	23.18	-3.1	20.08	101.86	23

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.03	-3.1	19.93	98.4	23

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.2	-3.1	20.1	102.33	23

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	22.1	-3.1	19	79.43	23

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	20.85	-3.1	17.75	59.57	23

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	18.8	-3.1	15.7	37.15	23

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

**ANT6:
N77(Part27Q)**

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
630668	3460.02	22.95	-1.1	21.85	153.11	1
633334	3500.01	23.01	-1.1	21.91	155.24	1
636000	3540	23.03	-1.1	21.93	155.96	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631002	3465.03	23.01	-1.1	21.91	155.24	1
633334	3500.01	23.06	-1.1	21.96	157.04	1
635664	3534.96	23.05	-1.1	21.95	156.68	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631334	3470.01	23.05	-1.1	21.95	156.68	1
633334	3500.01	23.1	-1.1	22	158.49	1
635332	3529.98	23.01	-1.1	21.91	155.24	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
631668	3475.02	23.01	-1.1	21.91	155.24	1
633334	3500.01	23.09	-1.1	21.99	158.12	1
634998	3524.97	23.15	-1.1	22.05	160.32	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632000	3480	23.05	-1.1	21.95	156.68	1
633334	3500.01	23.09	-1.1	21.99	158.12	1
634666	3519.99	23.15	-1.1	22.05	160.32	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
632668	3490.02	23.01	-1.1	21.91	155.24	1
633334	3500.01	23.02	-1.1	21.92	155.6	1
634000	3510	23.07	-1.1	21.97	157.4	1

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.02	-1.1	21.92	155.6	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	23.13	-1.1	22.03	159.59	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	22.08	-1.1	20.98	125.31	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	20.97	-1.1	19.87	97.05	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
633334	3500.01	18.91	-1.1	17.81	60.39	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N77(Part270)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647334	3710.01	23.28	-1.1	22.18	165.2	1
656000	3840	23.21	-1.1	22.11	162.55	1
664666	3969.99	23.24	-1.1	22.14	163.68	1

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
647670	3715.05	23.2	-1.1	22.1	162.18	1
656000	3840	23.21	-1.1	22.11	162.55	1
664332	3964.98	23.27	-1.1	22.17	164.82	1

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648000	3720	23.14	-1.1	22.04	159.96	1
656000	3840	23.19	-1.1	22.09	161.81	1
664000	3960	23.22	-1.1	22.12	162.93	1

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648336	3725.04	23.16	-1.1	22.06	160.69	1
656000	3840	23.11	-1.1	22.01	158.85	1
663666	3954.99	23.15	-1.1	22.05	160.32	1

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
648668	3730.02	23.15	-1.1	22.05	160.32	1
656000	3840	23.23	-1.1	22.13	163.31	1
663332	3949.98	23.2	-1.1	22.1	162.18	1

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
649334	3740.01	23.19	-1.1	22.09	161.81	1
656000	3840	23.23	-1.1	22.13	163.31	1
662666	3939.99	23.26	-1.1	22.16	164.44	1



BUREAU
VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.08	-1.1	21.98	157.76	1
656000	3840	23.17	-1.1	22.07	161.06	1
662000	3930	23.29	-1.1	22.19	165.58	1

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	23.16	-1.1	22.06	160.69	1
656000	3840	23.23	-1.1	22.13	163.31	1
662000	3930	23.34	-1.1	22.24	167.49	1

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	22.02	-1.1	20.92	123.59	1
656000	3840	22.13	-1.1	21.03	126.77	1
662000	3930	22.25	-1.1	21.15	130.32	1

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	20.78	-1.1	19.68	92.9	1
656000	3840	20.81	-1.1	19.71	93.54	1
662000	3930	20.99	-1.1	19.89	97.5	1

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
650000	3750	18.78	-1.1	17.68	58.61	1
656000	3840	18.79	-1.1	17.69	58.75	1
662000	3930	18.95	-1.1	17.85	60.95	1

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).



**BUREAU
VERITAS**

Test Report No.: W7L-P23030016RF12

N78(Part27Q)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
630668	3460.02	23.12	-1.1	22.02	159.22	23
633334	3500.01	23.16	-1.1	22.06	160.69	23
636000	3540	23.18	-1.1	22.08	161.44	23

CHANNEL BANDWIDTH: 30MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631002	3465.03	23.12	-1.1	22.02	159.22	23
633334	3500.01	23.09	-1.1	21.99	158.12	23
635664	3534.96	23.12	-1.1	22.02	159.22	23

CHANNEL BANDWIDTH: 40MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-Lc} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631334	3470.01	23.2	-1.1	22.1	162.18	23
633334	3500.01	23.15	-1.1	22.05	160.32	23
635332	3529.98	23.17	-1.1	22.07	161.06	23

CHANNEL BANDWIDTH: 50MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
631668	3475.02	23.12	-1.1	22.02	159.22	23
633334	3500.01	23.14	-1.1	22.04	159.96	23
634998	3524.97	23.16	-1.1	22.06	160.69	23

CHANNEL BANDWIDTH: 60MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632000	3480	23.15	-1.1	22.05	160.32	23
633334	3500.01	23.11	-1.1	22.01	158.85	23
634666	3519.99	23.18	-1.1	22.08	161.44	23

CHANNEL BANDWIDTH: 80MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
632668	3490.02	23.11	-1.1	22.01	158.85	23
633334	3500.01	23.02	-1.1	21.92	155.6	23
634000	3510	23.12	-1.1	22.02	159.22	23

CHANNEL BANDWIDTH: 90MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _C (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633000	3495	23.08	-1.1	21.98	157.76	23
633334	3500.01	23.21	-1.1	22.11	162.55	23
633666	3504.99	23.15	-1.1	22.05	160.32	23

CHANNEL BANDWIDTH: 100MHz Pi/2 BPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.06	-1.1	21.96	157.04	23

CHANNEL BANDWIDTH: 100MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	23.21	-1.1	22.11	162.55	23

CHANNEL BANDWIDTH: 100MHz 16QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	22.11	-1.1	21.01	126.18	23

CHANNEL BANDWIDTH: 100MHz 64QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	20.92	-1.1	19.82	95.94	23

CHANNEL BANDWIDTH: 100MHz 256QAM

Channel	Frequency (MHz)	Conducted Power (dBm)	G _{T-LC} (dB)	EIRP (dBm)	EIRP (mW)	Limit (dBm/10MHz)
633334	3500.01	18.88	-1.1	17.78	59.98	23

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

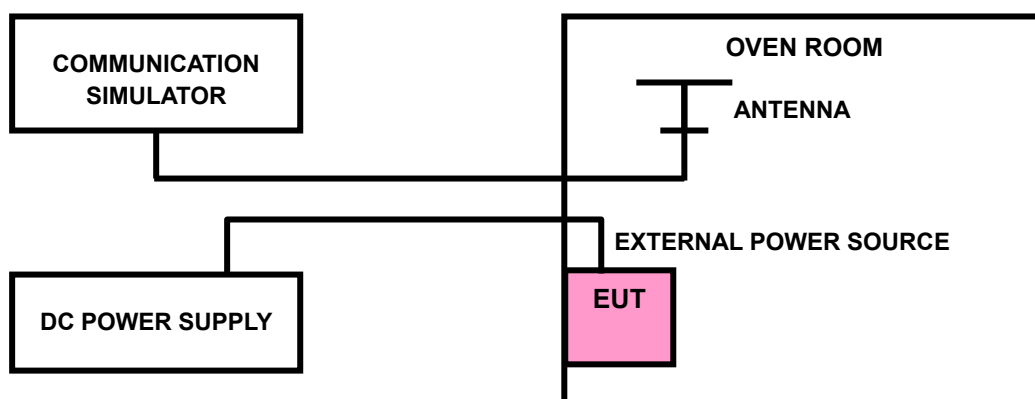
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP





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3.2.4 TEST RESULTS

Please Refer to Appendix Of this test report.

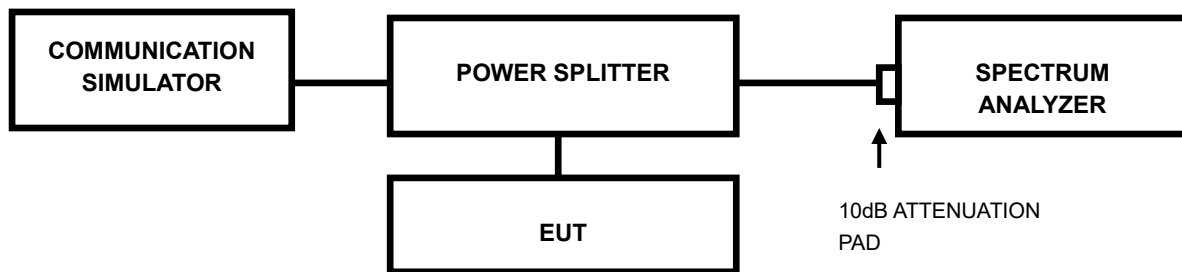
Note: VL = Low voltage(3.6V); VN/NV = Normal voltage(3.7V); VH = High voltage(4.2V);
NT = Normal temperature (25°C)

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.



Test Report No.: W7L-P23030016RF12

3.3.4 TEST RESULTS

Please Refer to Appendix Of this test report.



3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.(n2/n5/n25/n66)

According to FCC 27.53(g) specified that For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed. (n12/ n71)

According to FCC 27.53(m)(4) specified that For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.(n7/n41)

According to FCC 27.53(a)(4) specified that For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands: (n30)

(i) By a factor of not less than: $43 + 10 \log(P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log(P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log(P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log(P)$ dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than $43 + 10 \log(P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log(P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log(P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log(P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log(P)$ dB below 2288 MHz;

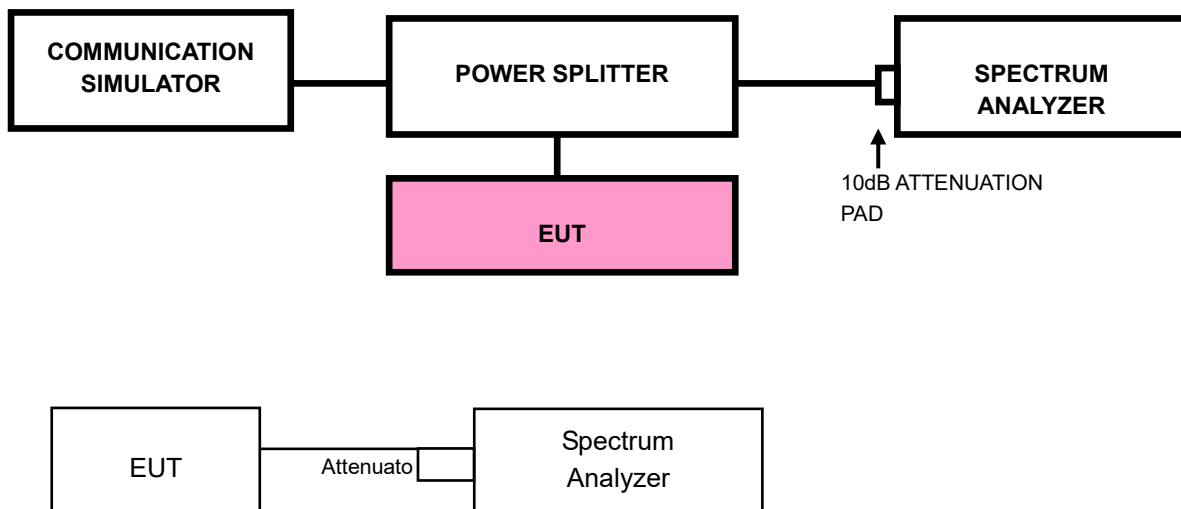


(iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

According to FCC 27.53(l)(2) specified that For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.(n77/n78)

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

3.4.2 TEST SETUP





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3.4.3 TEST PROCEDURES

- a) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.
- b) Tune the analyzer to the nominal center frequency of the emission bandwidth (EBW).
- c) Set the resolution bandwidth (RBW) $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
- d) Beyond the 1MHz band from the band edge, RBW=1MHz was used.
- e) Set the video bandwidth (VBW) to $\geq 3 \times$ RBW.
- f) Select the average power (RMS) display detector.
- g) Set the number of measurement points to ≥ 1001 .
- h) Use auto-coupled sweep time.
- i) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.
- j) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.
- k) Record the max trace plot into the test report.



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3.4.4 TEST RESULTS

Please Refer to Appendix Of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13dBm.

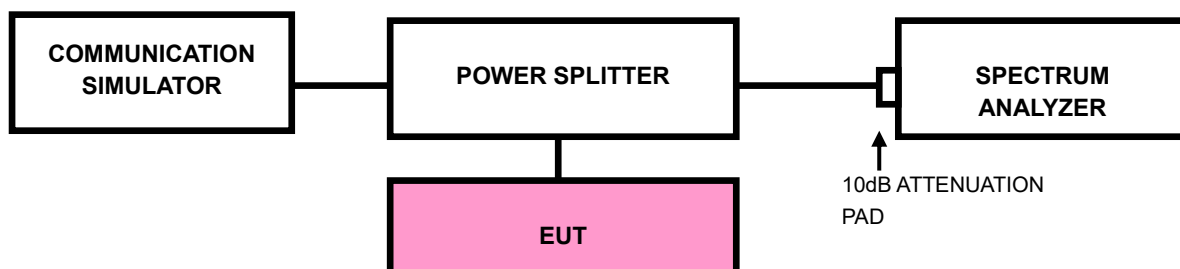
For 5G NR n41:

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm.

3.5.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP





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Test Report No.: W7L-P23030016RF12

3.5.4 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix Of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -13dBm.

For 5G NR n7/n41:

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log_{10}(P)$ dB. The limit of emission is equal to -25dBm.

3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G.
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.P.R \text{ power} - 2.15\text{dBi}$.

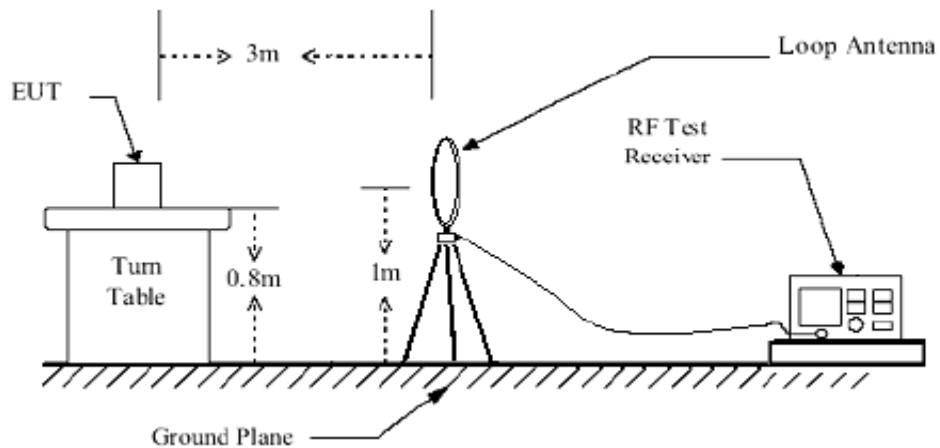
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 DEVIATION FROM TEST STANDARD

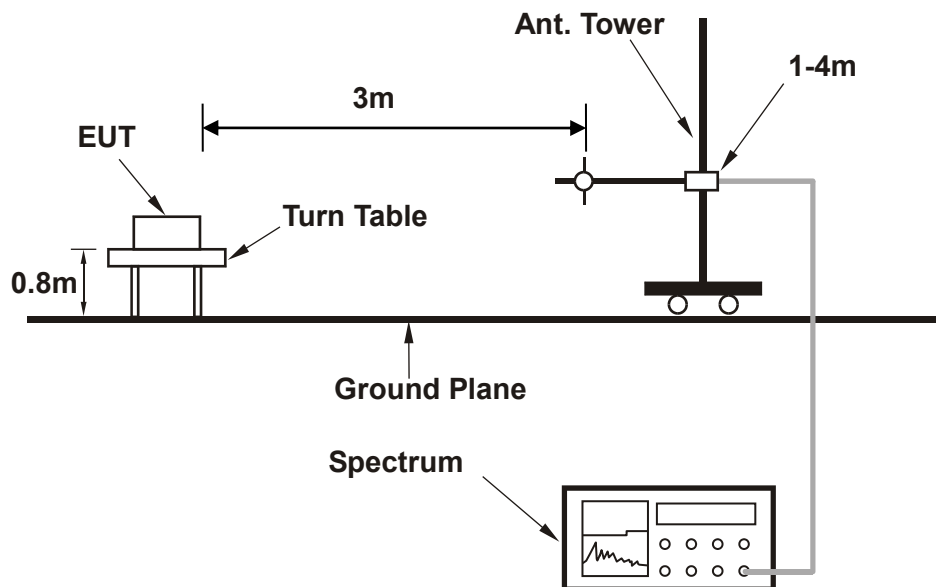
No deviation

3.6.4 TEST SETUP

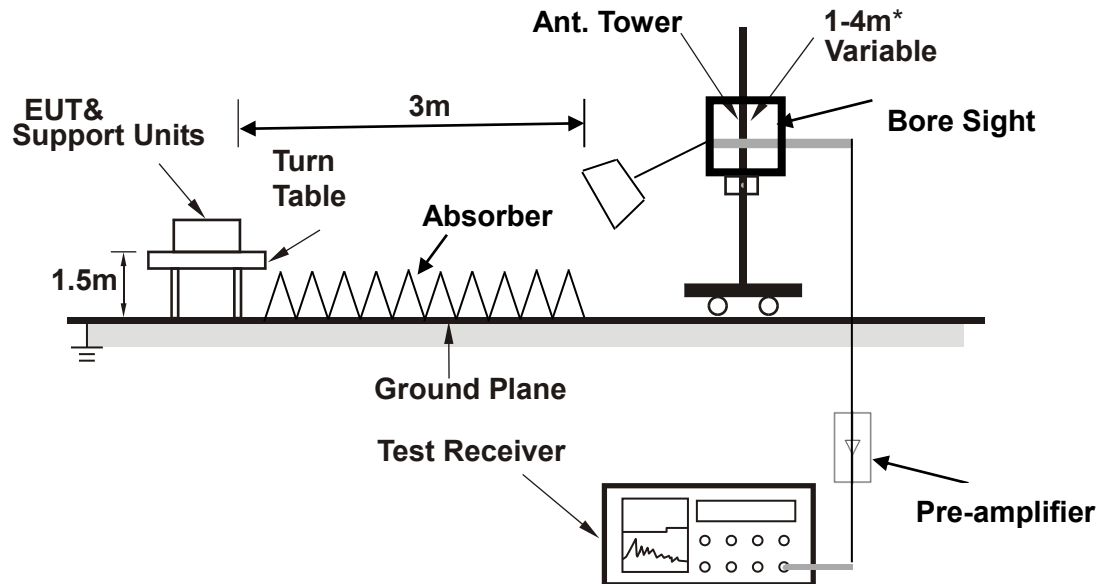
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).



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3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

5G SA BELOW 1GHz WORST-CASE DATA

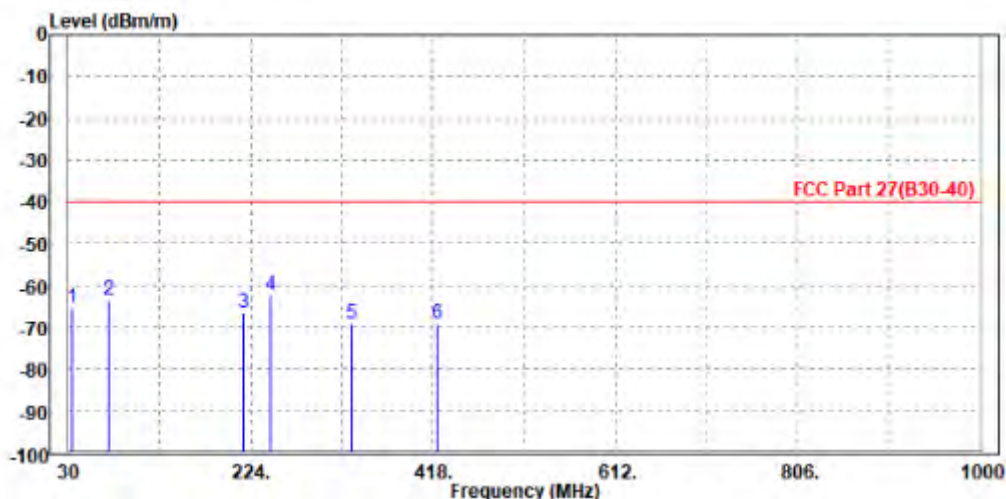
30 MHz – 1GHz data:

N30

CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 462000	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	34.850	-65.28	-53.24	-40.00	-25.28	-12.04	Peak	Horizontal
2	72.680	-63.62	-42.37	-40.00	-23.62	-21.25	Peak	Horizontal
3	216.240	-66.66	-51.18	-40.00	-26.66	-15.48	Peak	Horizontal
4 PP	244.370	-62.47	-50.35	-40.00	-22.47	-12.12	Peak	Horizontal
5	331.670	-69.22	-57.53	-40.00	-29.22	-11.69	Peak	Horizontal
6	422.850	-69.03	-59.41	-40.00	-29.03	-9.62	Peak	Horizontal

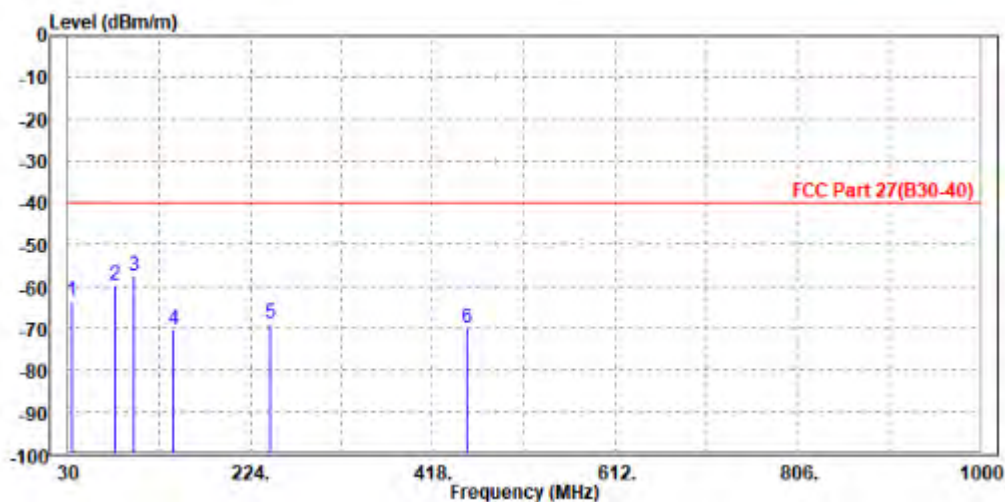




Test Report No.: W7L-P23030016RF12

MODE	TX channel 462000	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	34.850	-63.55	-42.98	-40.00	-23.55	-20.57	Peak	Vertical
2	80.440	-59.80	-40.80	-40.00	-19.80	-19.00	Peak	Vertical
3 PP	99.840	-57.57	-51.06	-40.00	-17.57	-6.51	Peak	Vertical
4	142.520	-70.28	-56.03	-40.00	-30.28	-14.25	Peak	Vertical
5	244.370	-68.83	-54.73	-40.00	-28.83	-14.10	Peak	Vertical
6	453.890	-70.02	-61.52	-40.00	-30.02	-8.50	Peak	Vertical





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Test Report No.: W7L-P23030016RF12

ABOVE 1GHz

Note: For higher frequency, the emission is too low to be detected.

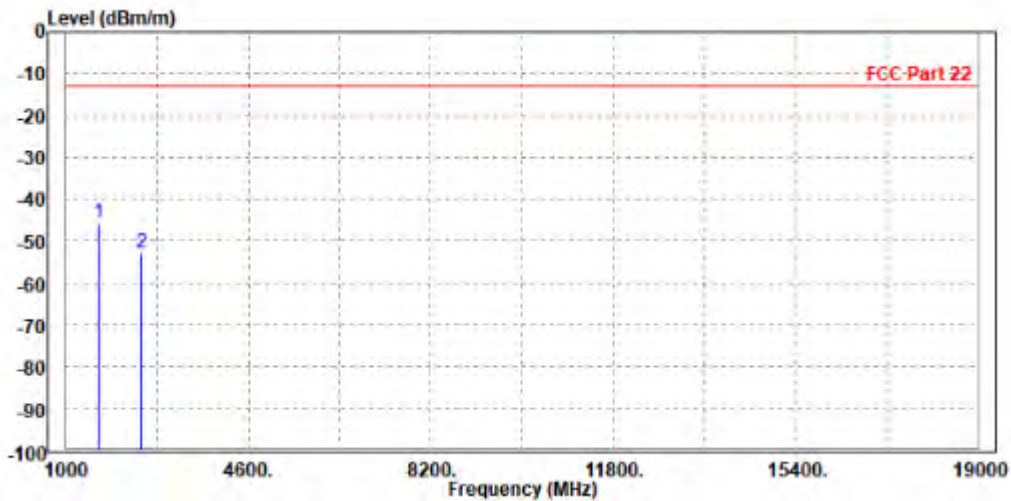
N5

CHANNEL BANDWIDTH: 5MHz / QPSK

CH 165300:

MODE	TX channel 165300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1648.000	-45.69	-46.46	-13.00	-32.69	0.77	Peak	Horizontal
2	2479.500	-52.66	-58.02	-13.00	-39.66	5.36	Peak	Horizontal

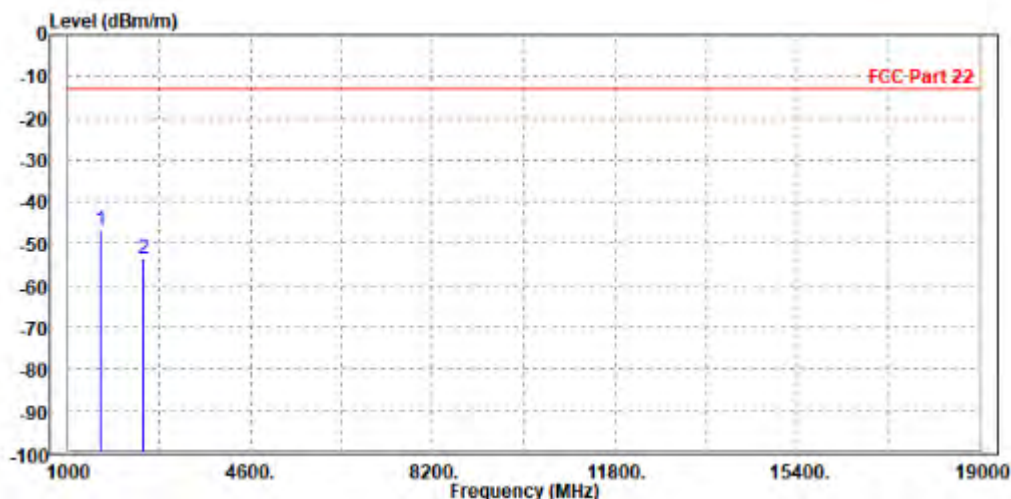




Test Report No.: W7L-P23030016RF12

MODE	TX channel 165300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1653.000	-46.63	-47.70	-13.00	-33.63	1.07	Peak	Vertical
2	2476.000	-53.45	-58.32	-13.00	-40.45	4.87	Peak	Vertical





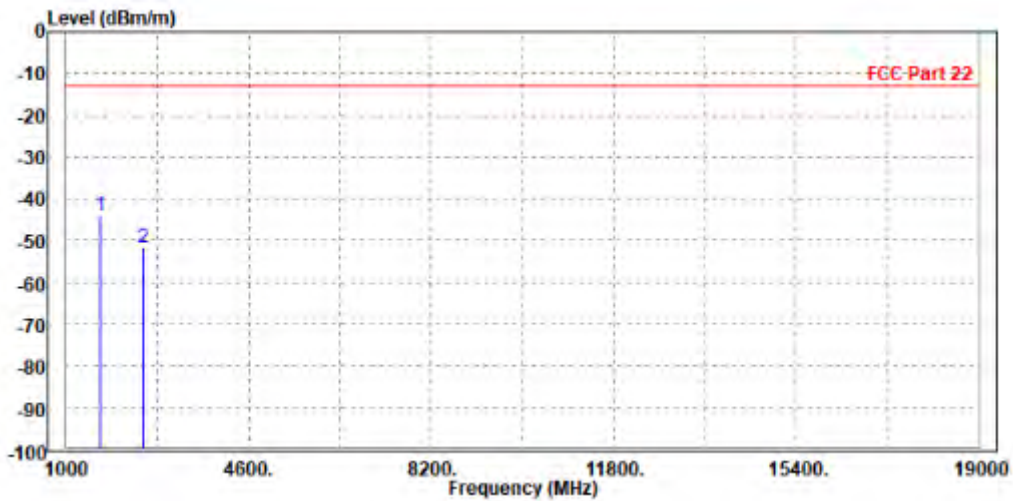
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Test Report No.: W7L-P23030016RF12

CH 167300:

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1673.000	-44.19	-45.17	-13.00	-31.19	0.98	Peak	Horizontal
2	2512.000	-51.81	-57.28	-13.00	-38.81	5.47	Peak	Horizontal

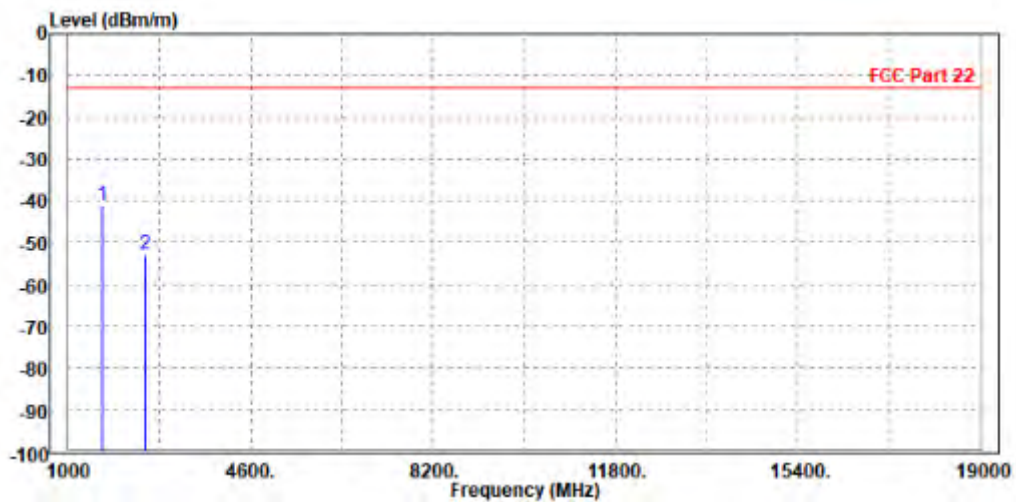




Test Report No.: W7L-P23030016RF12

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-41.12	-42.29	-13.00	-28.12	1.17	Peak	Vertical
2	2509.500	-52.93	-57.90	-13.00	-39.93	4.97	Peak	Vertical





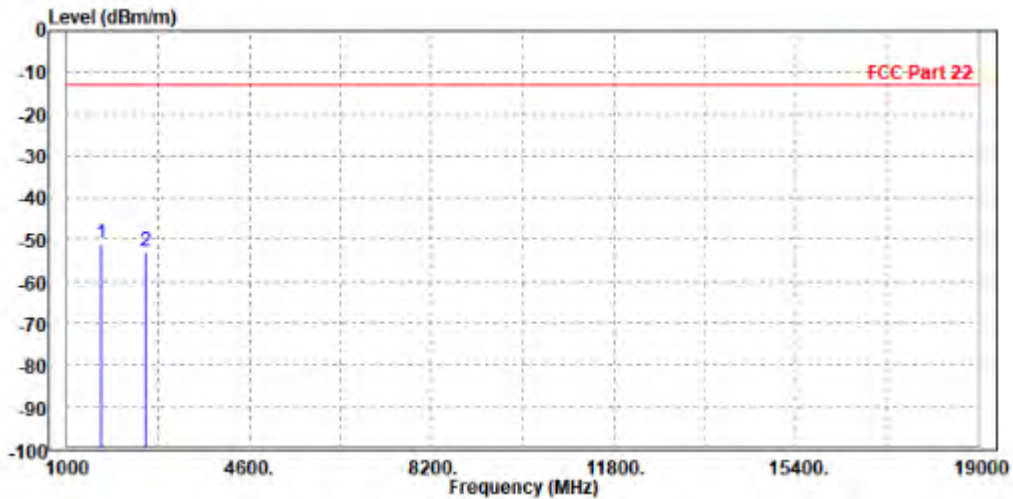
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Test Report No.: W7L-P23030016RF12

CH 169300:

MODE	TX channel 169300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1684.000	-51.06	-52.13	-13.00	-38.06	1.07	Peak	Horizontal
2	2548.000	-52.72	-58.27	-13.00	-39.72	5.55	Peak	Horizontal

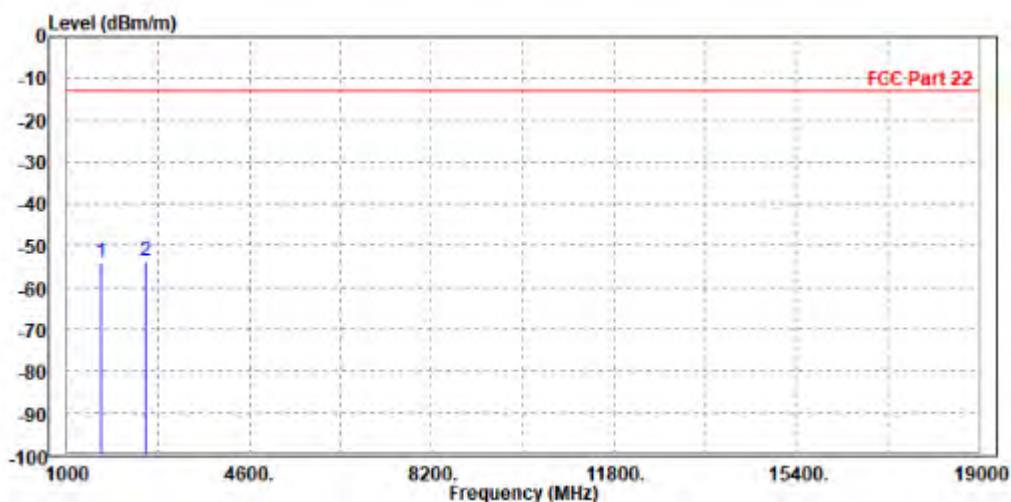




Test Report No.: W7L-P23030016RF12

MODE	TX channel 169300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	1684.000	-53.82	-55.12	-13.00	-40.82	1.30	Peak	Vertical
2 PP	2539.500	-53.72	-58.79	-13.00	-40.72	5.07	Peak	Vertical





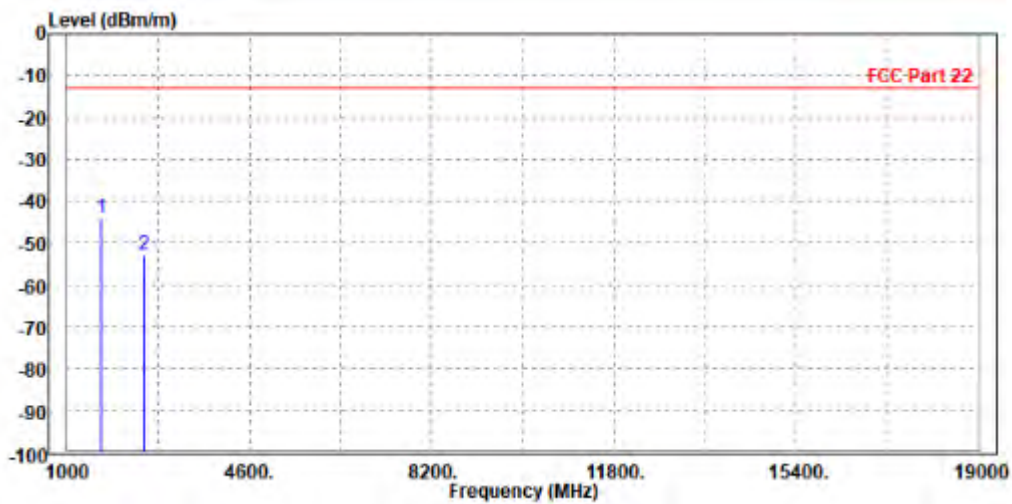
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Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1 PP	1666.000	-44.10	-45.02	-13.00	-31.10	0.92	Peak	Horizontal
2	2509.500	-52.73	-58.19	-13.00	-39.73	5.46	Peak	Horizontal

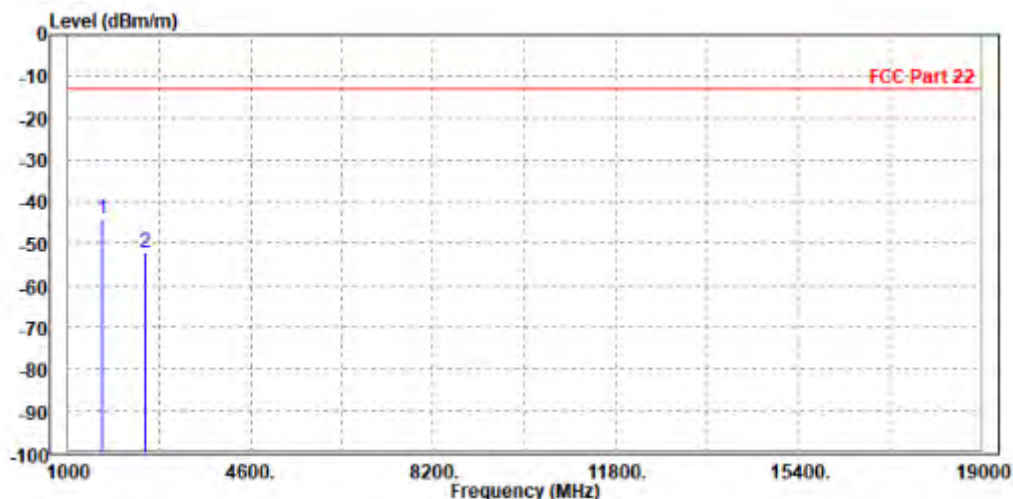




Test Report No.: W7L-P23030016RF12

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-44.00	-45.17	-13.00	-31.00	1.17	Peak	Vertical
2	2512.000	-52.23	-57.21	-13.00	-39.23	4.98	Peak	Vertical





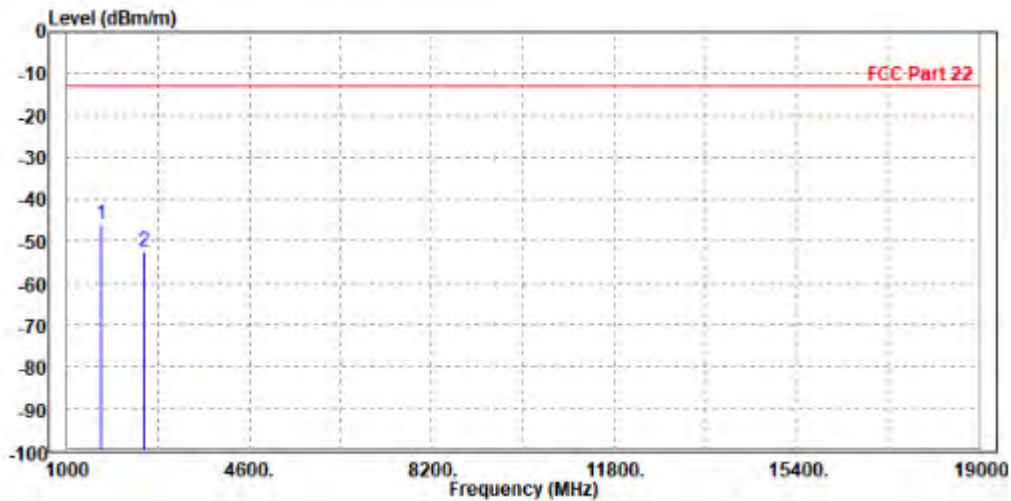
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Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-46.06	-46.98	-13.00	-33.06	0.92	Peak	Horizontal
2	2512.000	-52.28	-57.75	-13.00	-39.28	5.47	Peak	Horizontal

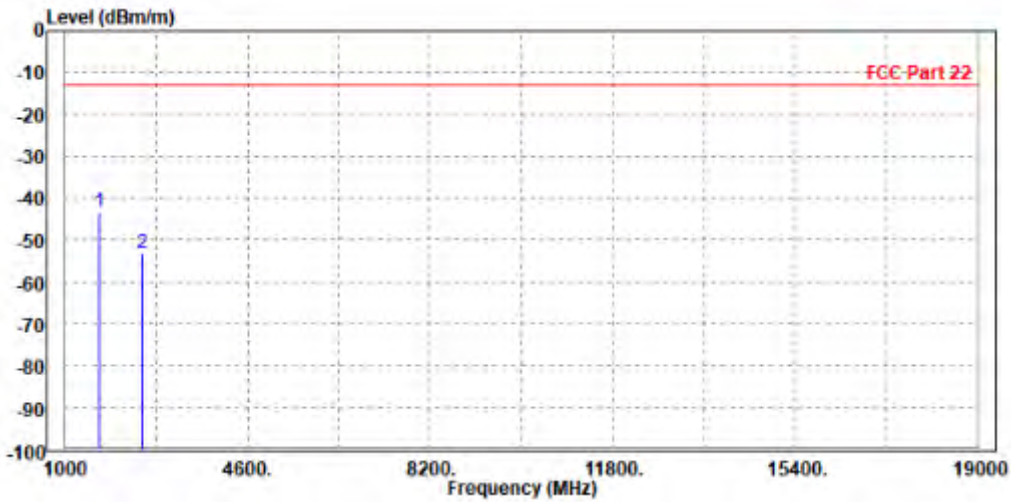




Test Report No.: W7L-P23030016RF12

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-43.25	-44.42	-13.00	-30.25	1.17	Peak	Vertical
2	2509.500	-53.24	-58.21	-13.00	-40.24	4.97	Peak	Vertical





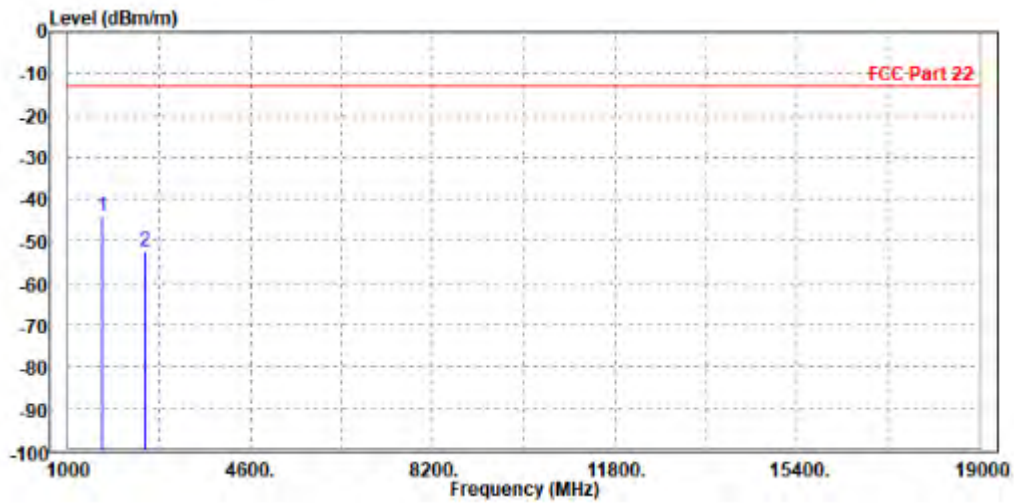
BUREAU VERITAS

Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 20MHz / QPSK

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-44.25	-45.17	-13.00	-31.25	0.92	Peak	Horizontal
2	2512.000	-52.42	-57.89	-13.00	-39.42	5.47	Peak	Horizontal

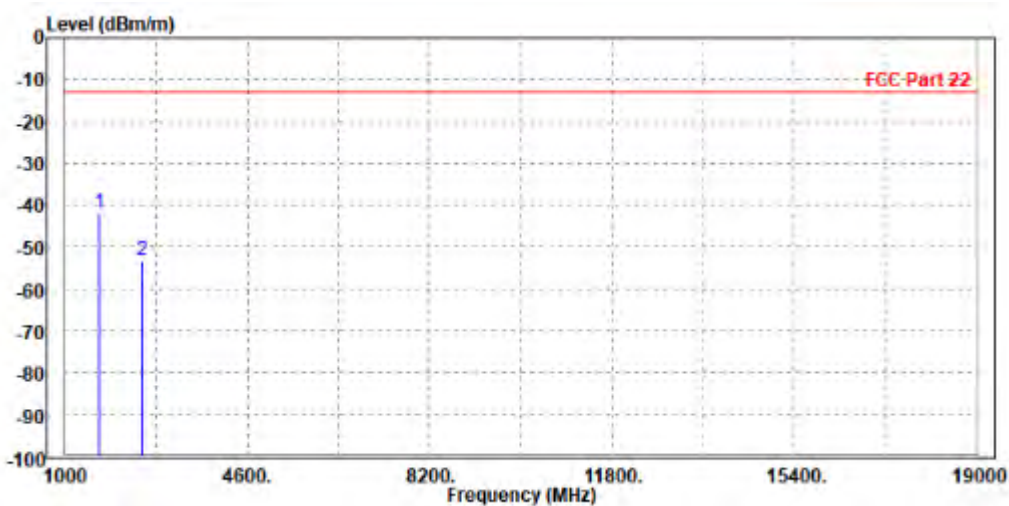




Test Report No.: W7L-P23030016RF12

MODE	TX channel 167300	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	PP 1666.000	-41.76	-42.93	-13.00	-28.76	1.17	Peak	Vertical
2	2512.000	-53.22	-58.20	-13.00	-40.22	4.98	Peak	Vertical





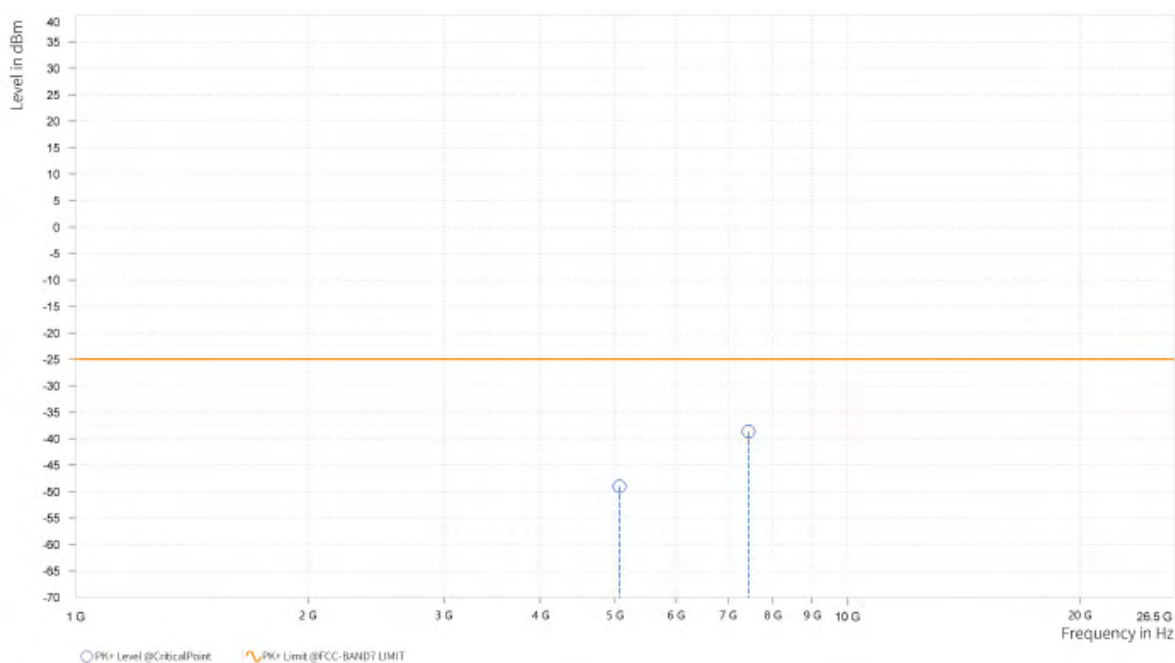
Test Report No.: W7L-P23030016RF12

N7

CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 507000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-49.03	-25.00	24.03	25.73	H	199.2	1
5	7,441.500	-38.68	-25.00	13.68	31.60	H	286.4	1

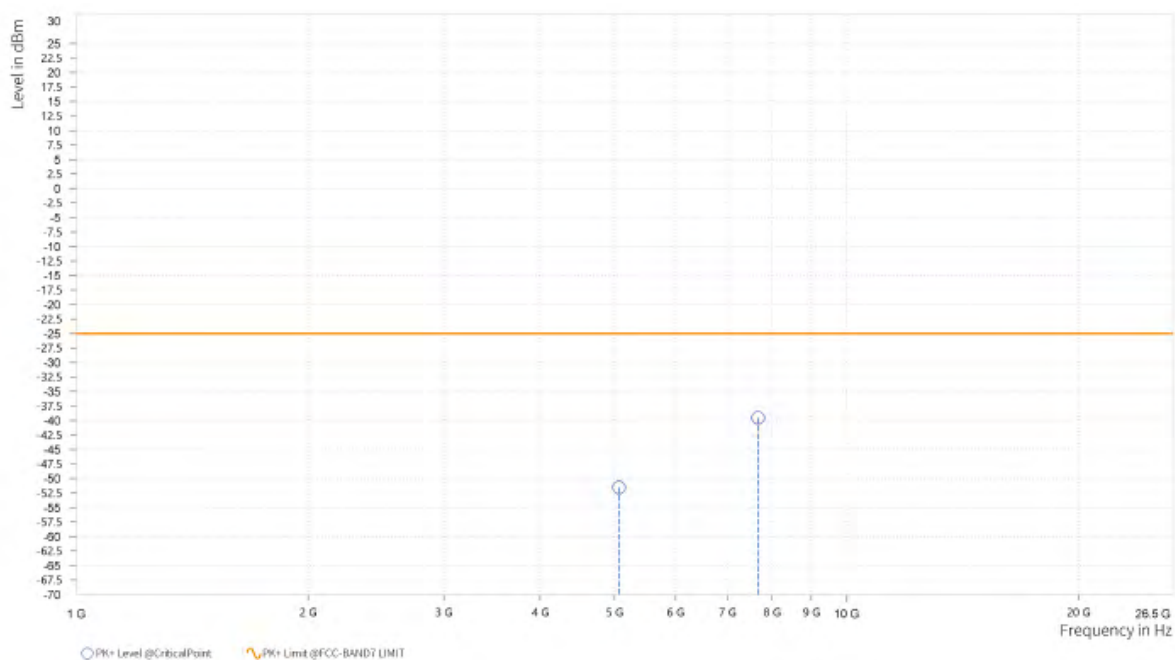




Test Report No.: W7L-P23030016RF12

MODE	TX channel 507000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,065.500	-51.52	-25.00	26.52	25.65	V	1	1
5	7,673.000	-39.55	-25.00	14.55	32.69	V	1	2





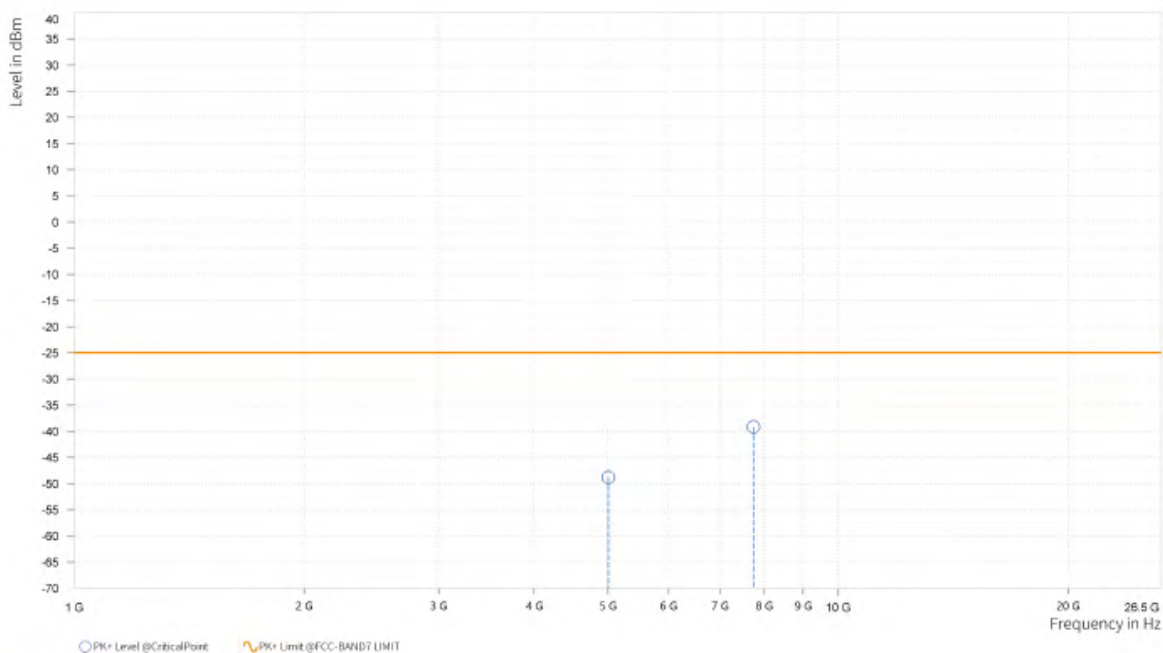
Test Report No.: W7L-P23030016RF12

CHANNEL BANDWIDTH: 10MHz / QPSK

CH 501000:

MODE	TX channel 501000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001,000	-48.84	-25.00	23.84	25.50	H	158.3	2
5	7,744,500	-39.18	-25.00	14.18	32.82	H	359	2

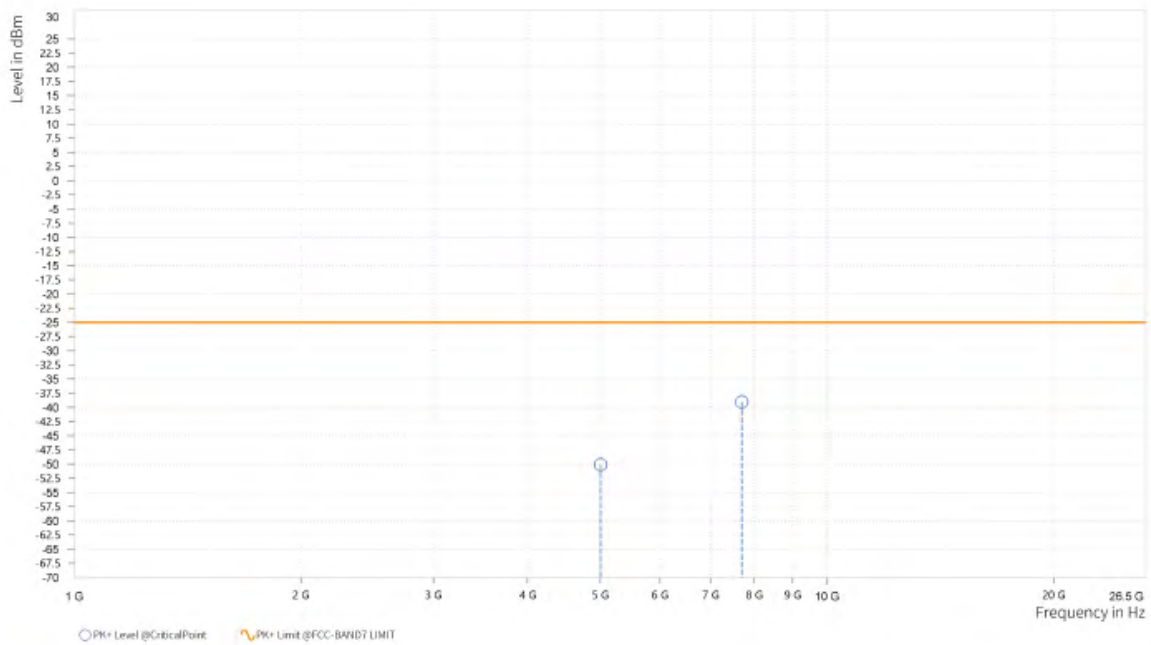




Test Report No.: W7L-P23030016RF12

MODE	TX channel 501000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,001.500	-50.11	-25.00	25.11	25.34	V	157.2	2
5	7,704.000	-39.03	-25.00	14.03	32.90	V	1	2





BUREAU VERITAS

Test Report No.: W7L-P23030016RF12

CH 507000:

MODE	TX channel 507000	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60HZ
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
4	5,061.000	-47.95	-25.00	22.95	25.69	H	198	1
5	7,853.000	-39.55	-25.00	14.55	32.98	H	359	2

