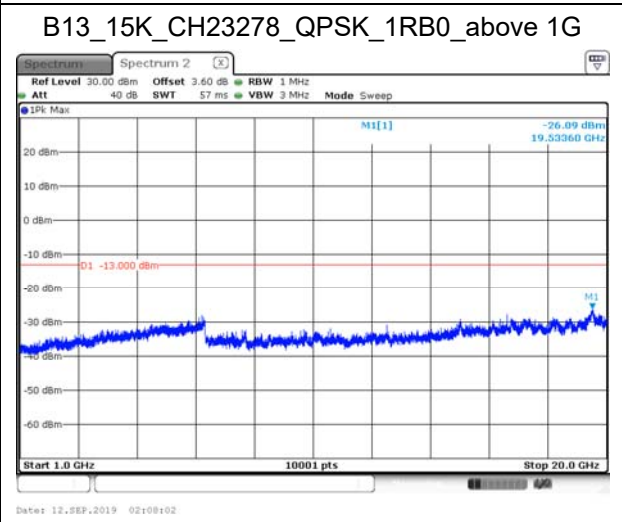
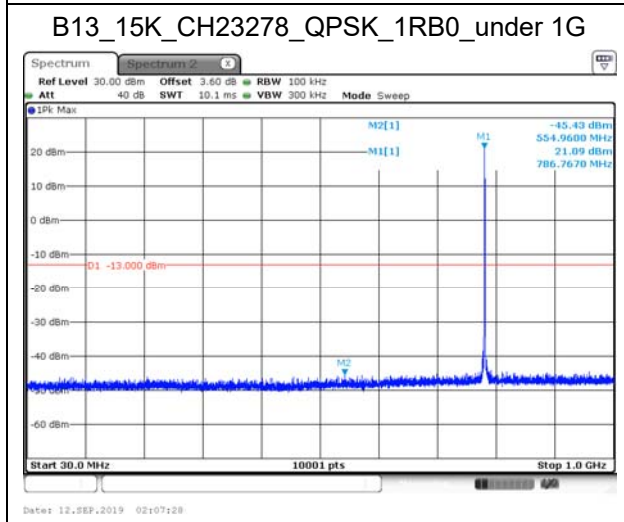
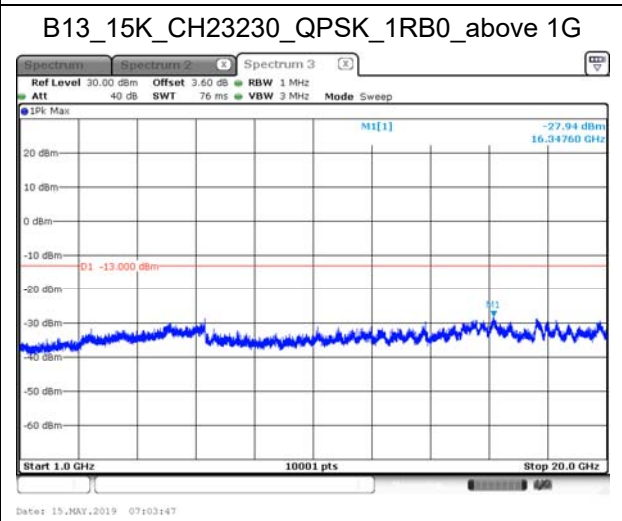
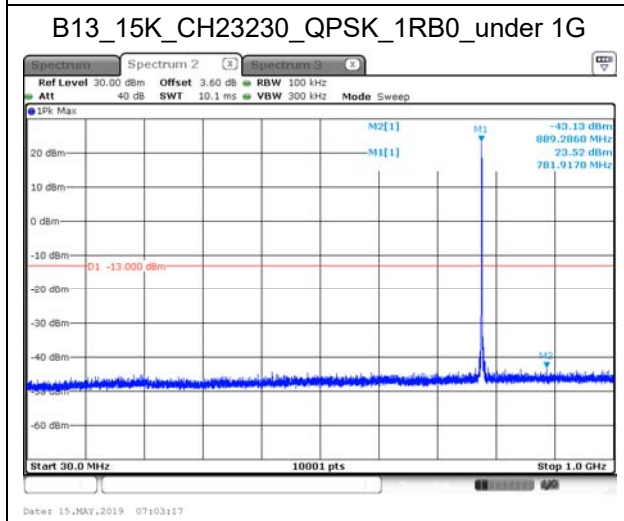
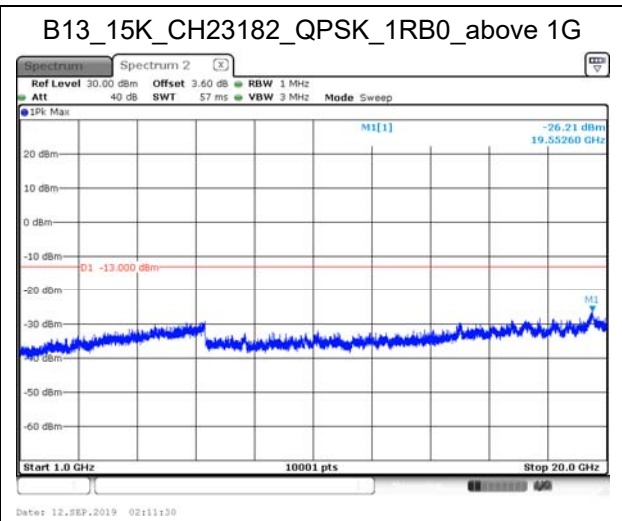
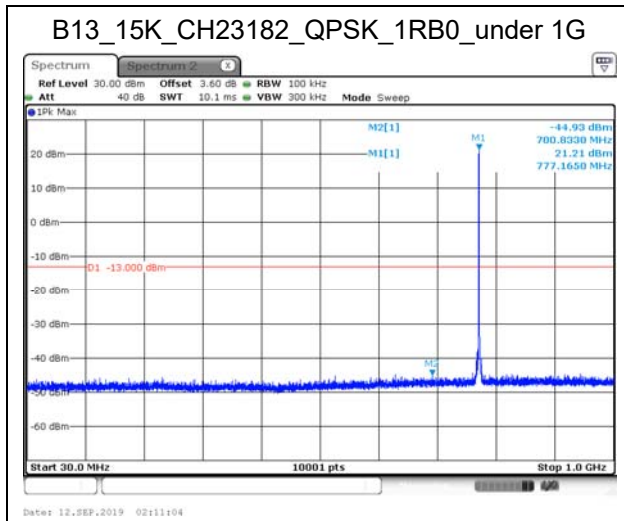
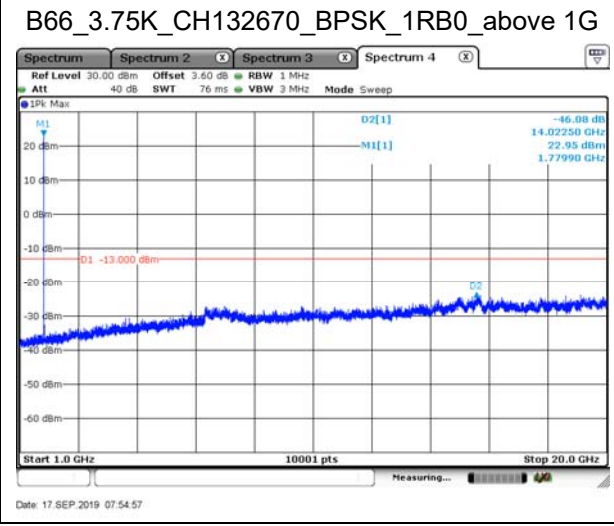
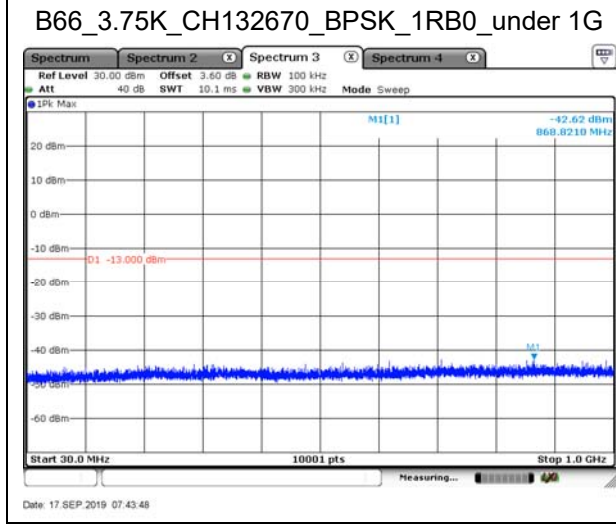
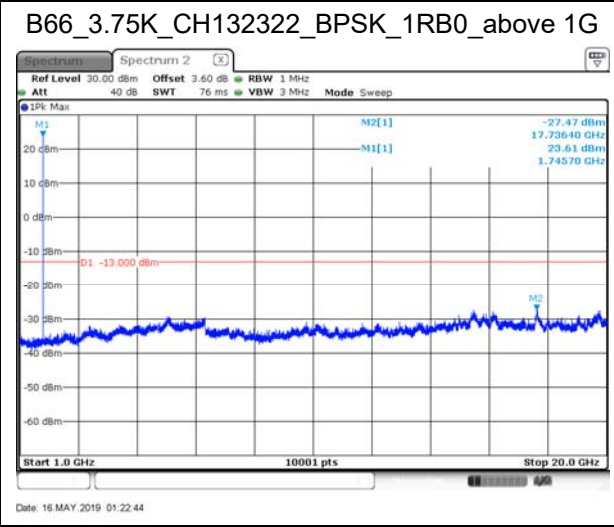
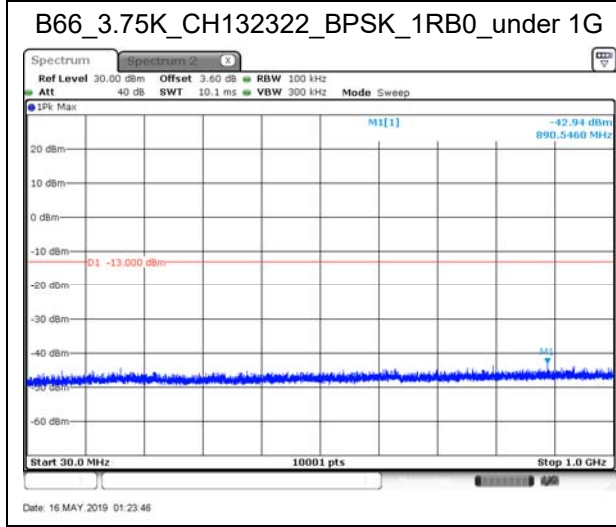
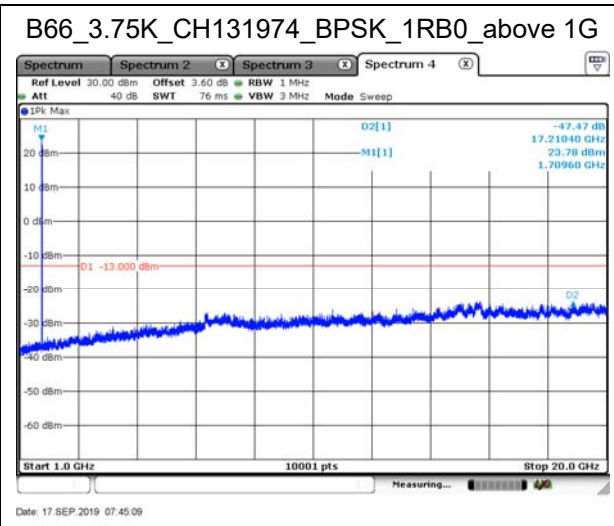
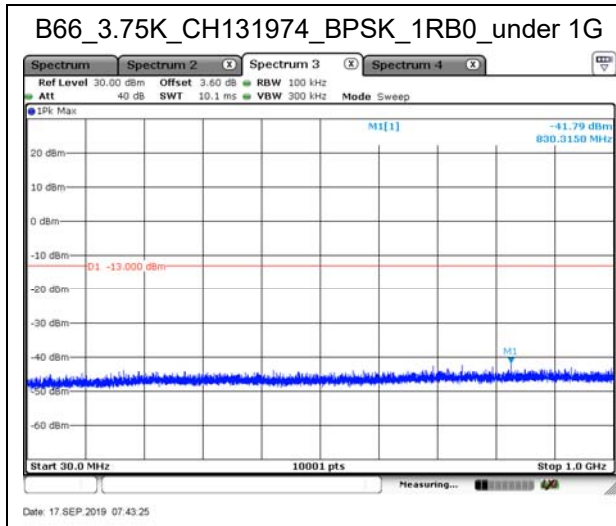


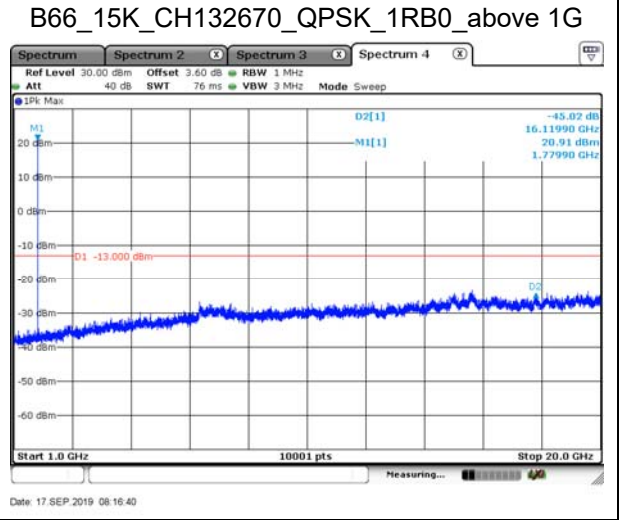
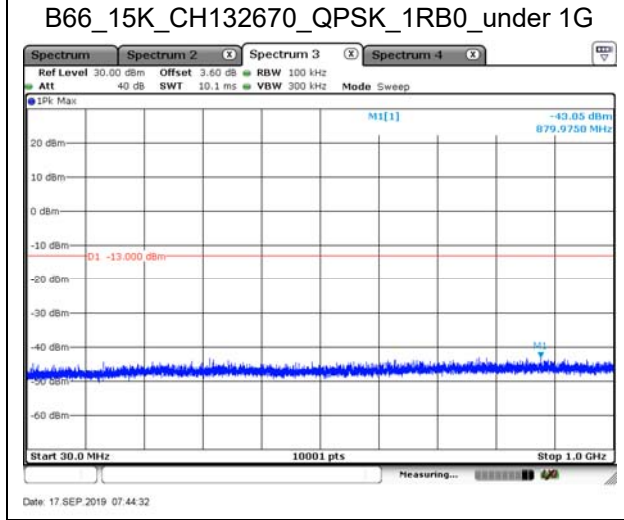
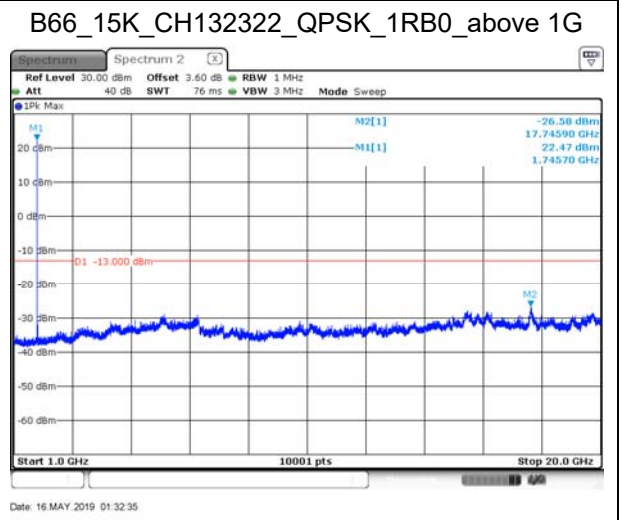
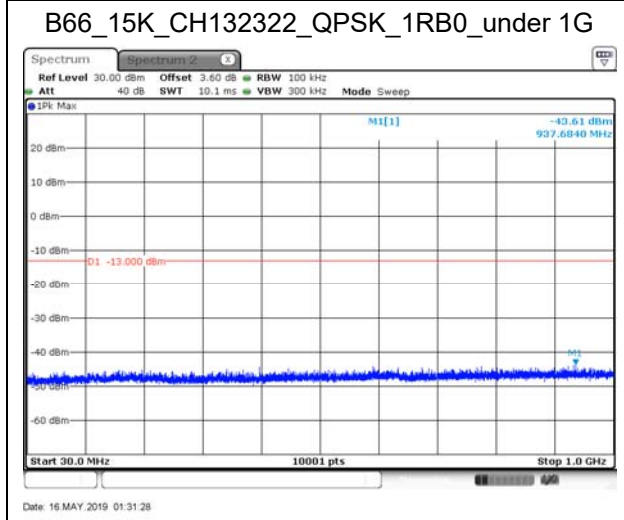
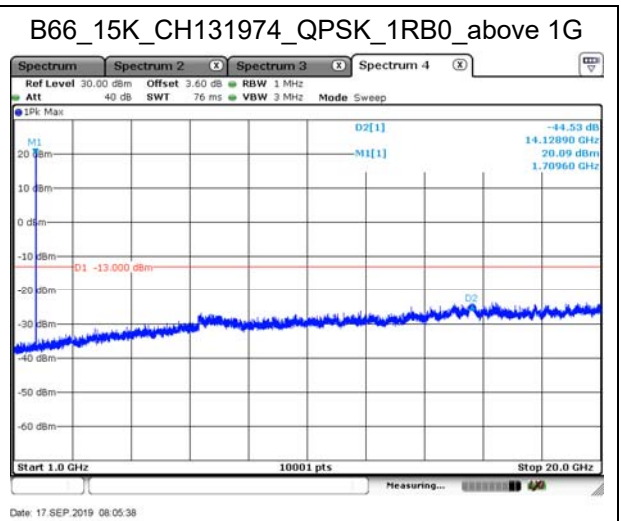
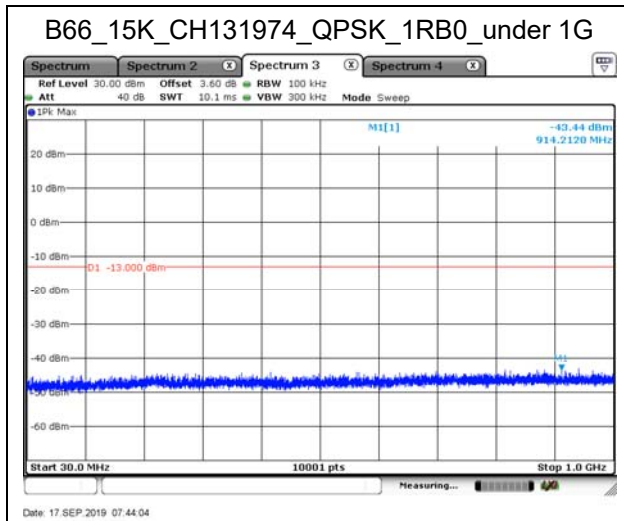
Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Conducted)		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/15~2019/09/12	Test Site	SR10-H



Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Conducted)		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/16~2019/09/17	Test Site	SR10-H



Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Conducted)		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/16~2019/09/17	Test Site	SR10-H



Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B2_BW 3.75K_CH 18602_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3700.400	-26.65	-13	-13.65	-34.75	12.61	4.51
	5550.600	-36.04	-13	-23.04	-43.50	13.13	5.67
	7400.800	-45.51	-13	-32.51	-50.23	11.32	6.60
	9251.000	-41.76	-13	-28.76	-46.38	11.83	7.20
	11101.200	-39.98	-13	-26.98	-43.69	11.66	7.96
	12951.400	-39.48	-13	-26.48	-44.47	13.63	8.63
V	3700.400	-28.88	-13	-15.88	-36.98	12.61	4.51
	5550.600	-37.78	-13	-24.78	-45.24	13.13	5.67
	7400.800	-44.43	-13	-31.43	-49.15	11.32	6.60
	9251.000	-46.35	-13	-33.35	-50.97	11.83	7.20
	11101.200	-39.78	-13	-26.78	-43.49	11.66	7.96
	12951.400	-39.53	-13	-26.53	-44.52	13.63	8.63

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B2_BW 3.75K_CH 18900_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3760.000	-28.68	-13	-15.68	-36.75	12.60	4.54
	5640.000	-35.55	-13	-22.55	-42.95	13.10	5.70
	7520.000	-45.42	-13	-32.42	-50.04	11.24	6.61
	9400.000	-43.74	-13	-30.74	-48.24	11.79	7.29
	11280.000	-39.23	-13	-26.23	-43.09	11.92	8.06
	13160.000	-36.42	-13	-23.42	-41.04	13.33	8.70
V	3760.000	-33.34	-13	-20.34	-41.41	12.60	4.54
	5640.000	-45.75	-13	-32.75	-53.15	13.10	5.70
	7520.000	-45.16	-13	-32.16	-49.78	11.24	6.61
	9400.000	-44.24	-13	-31.24	-48.74	11.79	7.29
	11280.000	-39.03	-13	-26.03	-42.89	11.92	8.06
	13160.000	-36.27	-13	-23.27	-40.89	13.33	8.70

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B2_BW 3.75K_CH 19198_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3819.600	-31.05	-13	-18.05	-39.09	12.60	4.57
	5729.400	-35.34	-13	-22.34	-42.69	13.08	5.73
	7639.200	-44.81	-13	-31.81	-49.46	11.24	6.60
	9549.000	-43.57	-13	-30.57	-48.01	11.80	7.36
	11458.800	-39.83	-13	-26.83	-43.85	12.17	8.16
	13368.600	-37.50	-13	-24.50	-41.71	12.97	8.76
V	3819.600	-34.63	-13	-21.63	-42.67	12.60	4.57
	5729.400	-36.73	-13	-23.73	-44.08	13.08	5.73
	7639.200	-44.61	-13	-31.61	-49.26	11.24	6.60
	9549.000	-43.47	-13	-30.47	-47.91	11.80	7.36
	11458.800	-38.74	-13	-25.74	-42.76	12.17	8.16
	13368.600	-37.35	-13	-24.35	-41.56	12.97	8.76

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B2_BW 15K_CH 18602_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3700.400	-26.38	-13	-13.38	-34.48	12.61	4.51
	5550.600	-38.52	-13	-25.52	-45.98	13.13	5.67
	7400.800	-46.22	-13	-33.22	-50.94	11.32	6.60
	9251.000	-45.08	-13	-32.08	-49.70	11.83	7.20
	11101.200	-40.24	-13	-27.24	-43.95	11.66	7.96
	12951.400	-38.86	-13	-25.86	-43.85	13.63	8.63
V	3700.400	-29.31	-13	-16.31	-37.41	12.61	4.51
	5550.600	-39.38	-13	-26.38	-46.84	13.13	5.67
	7400.800	-45.37	-13	-32.37	-50.09	11.32	6.60
	9251.000	-46.43	-13	-33.43	-51.05	11.83	7.20
	11101.200	-40.58	-13	-27.58	-44.29	11.66	7.96
	12951.400	-38.85	-13	-25.85	-43.84	13.63	8.63

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B2_BW 15K_CH 18900_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3760.000	-29.81	-13	-16.81	-37.88	12.60	4.54
	5640.000	-37.42	-13	-24.42	-44.82	13.10	5.70
	7520.000	-45.58	-13	-32.58	-50.20	11.24	6.61
	9400.000	-43.77	-13	-30.77	-48.27	11.79	7.29
	11280.000	-39.54	-13	-26.54	-43.40	11.92	8.06
	13160.000	-36.71	-13	-23.71	-41.33	13.33	8.70
V	3760.000	-33.08	-13	-20.08	-41.15	12.60	4.54
	5640.000	-46.99	-13	-33.99	-54.39	13.10	5.70
	7520.000	-46.10	-13	-33.10	-50.72	11.24	6.61
	9400.000	-44.14	-13	-31.14	-48.64	11.79	7.29
	11280.000	-39.70	-13	-26.70	-43.56	11.92	8.06
	13160.000	-36.37	-13	-23.37	-40.99	13.33	8.70

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

BW 15K_CH 19198_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3819.600	-31.36	-13	-18.36	-39.40	12.60	4.57
	5729.400	-36.01	-13	-23.01	-43.36	13.08	5.73
	7639.200	-44.97	-13	-31.97	-49.62	11.24	6.60
	9549.000	-43.62	-13	-30.62	-48.06	11.80	7.36
	11458.800	-39.74	-13	-26.74	-43.76	12.17	8.16
	13368.600	-37.54	-13	-24.54	-41.75	12.97	8.76
V	3819.600	-35.15	-13	-22.15	-43.19	12.60	4.57
	5729.400	-37.19	-13	-24.19	-44.54	13.08	5.73
	7639.200	-45.09	-13	-32.09	-49.74	11.24	6.60
	9549.000	-43.84	-13	-30.84	-48.28	11.80	7.36
	11458.800	-39.88	-13	-26.88	-43.90	12.17	8.16
	13368.600	-36.77	-13	-23.77	-40.98	12.97	8.76

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B4_BW 3.75K_CH 19952_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3420.400	-35.62	-13	-22.62	-43.70	12.44	4.35
	5130.600	-47.29	-13	-34.29	-54.68	12.78	5.39
	6840.800	-46.95	-13	-33.95	-52.43	11.84	6.36
	8551.000	-45.30	-13	-32.30	-50.26	11.87	6.91
	10261.200	-39.66	-13	-26.66	-43.91	11.87	7.61
	11971.400	-39.57	-13	-26.57	-44.47	13.12	8.22
V	3420.400	-40.79	-13	-27.79	-48.87	12.44	4.35
	5130.600	-40.31	-13	-27.31	-47.70	12.78	5.39
	6840.800	-46.60	-13	-33.60	-52.08	11.84	6.36
	8551.000	-44.74	-13	-31.74	-49.70	11.87	6.91
	10261.200	-40.18	-13	-27.18	-44.43	11.87	7.61
	11971.400	-38.29	-13	-25.29	-43.19	13.12	8.22

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B4_BW 3.75K_CH 20175_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3465.000	-35.00	-13	-22.00	-43.15	12.53	4.38
	5197.500	-43.03	-13	-30.03	-50.44	12.84	5.43
	6930.000	-45.42	-13	-32.42	-50.69	11.73	6.46
	8662.500	-47.32	-13	-34.32	-52.24	11.87	6.95
	10395.000	-40.34	-13	-27.34	-44.41	11.75	7.68
	12127.500	-39.28	-13	-26.28	-44.37	13.35	8.26
V	3465.000	-40.27	-13	-27.27	-48.42	12.53	4.38
	5197.500	-40.32	-13	-27.32	-47.73	12.84	5.43
	6930.000	-45.36	-13	-32.36	-50.63	11.73	6.46
	8662.500	-47.59	-13	-34.59	-52.51	11.87	6.95
	10395.000	-39.90	-13	-26.90	-43.97	11.75	7.68
	12127.500	-39.30	-13	-26.30	-44.39	13.35	8.26

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B4_BW 3.75K_CH 20398_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3509.600	-33.36	-13	-20.36	-41.55	12.61	4.42
	5264.400	-39.53	-13	-26.53	-46.96	12.91	5.48
	7019.200	-47.58	-13	-34.58	-52.67	11.63	6.54
	8774.000	-46.95	-13	-33.95	-51.84	11.88	6.99
	10528.800	-40.74	-13	-27.74	-44.64	11.65	7.75
	12283.600	-39.49	-13	-26.49	-44.75	13.57	8.31
V	3509.600	-40.09	-13	-27.09	-48.28	12.61	4.42
	5264.400	-37.67	-13	-24.67	-45.10	12.91	5.48
	7019.200	-47.66	-13	-34.66	-52.75	11.63	6.54
	8774.000	-45.60	-13	-32.60	-50.49	11.88	6.99
	10528.800	-40.88	-13	-27.88	-44.78	11.65	7.75
	12283.600	-39.78	-13	-26.78	-45.04	13.57	8.31

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B4_BW 15K_CH 19952_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3420.400	-36.92	-13	-23.92	-45.00	12.44	4.35
	5130.600	-48.45	-13	-35.45	-55.84	12.78	5.39
	6840.800	-46.61	-13	-33.61	-52.09	11.84	6.36
	8551.000	-44.97	-13	-31.97	-49.93	11.87	6.91
	10261.200	-40.11	-13	-27.11	-44.36	11.87	7.61
	11971.400	-39.78	-13	-26.78	-44.68	13.12	8.22
V	3420.400	-39.39	-13	-26.39	-47.47	12.44	4.35
	5130.600	-41.94	-13	-28.94	-49.33	12.78	5.39
	6840.800	-46.87	-13	-33.87	-52.35	11.84	6.36
	8551.000	-45.00	-13	-32.00	-49.96	11.87	6.91
	10261.200	-39.33	-13	-26.33	-43.58	11.87	7.61
	11971.400	-39.58	-13	-26.58	-44.48	13.12	8.22

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B4_BW 15K_CH 20175_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3465.000	-35.34	-13	-22.34	-43.49	12.53	4.38
	5197.500	-44.84	-13	-31.84	-52.25	12.84	5.43
	6930.000	-45.99	-13	-32.99	-51.26	11.73	6.46
	8662.500	-47.53	-13	-34.53	-52.45	11.87	6.95
	10395.000	-39.91	-13	-26.91	-43.98	11.75	7.68
	12127.500	-39.11	-13	-26.11	-44.20	13.35	8.26
V	3465.000	-40.90	-13	-27.90	-49.05	12.53	4.38
	5197.500	-41.13	-13	-28.13	-48.54	12.84	5.43
	6930.000	-45.08	-13	-32.08	-50.35	11.73	6.46
	8662.500	-47.78	-13	-34.78	-52.70	11.87	6.95
	10395.000	-39.98	-13	-26.98	-44.05	11.75	7.68
	12127.500	-38.62	-13	-25.62	-43.71	13.35	8.26

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B4_BW 15K_CH 20398_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3509.600	-35.57	-13	-22.57	-43.76	12.61	4.42
	5264.400	-40.66	-13	-27.66	-48.09	12.91	5.48
	7019.200	-48.12	-13	-35.12	-53.21	11.63	6.54
	8774.000	-47.46	-13	-34.46	-52.35	11.88	6.99
	10528.800	-40.18	-13	-27.18	-44.08	11.65	7.75
	12283.600	-39.56	-13	-26.56	-44.82	13.57	8.31
V	3509.600	-42.20	-13	-29.20	-50.39	12.61	4.42
	5264.400	-39.93	-13	-26.93	-47.36	12.91	5.48
	7019.200	-47.89	-13	-34.89	-52.98	11.63	6.54
	8774.000	-47.02	-13	-34.02	-51.91	11.88	6.99
	10528.800	-40.84	-13	-27.84	-44.74	11.65	7.75
	12283.600	-39.39	-13	-26.39	-44.65	13.57	8.31

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B5_BW 3.75K_CH 20402_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1648.400	-38.01	-13	-25.01	-44.31	9.29	2.99
	2472.600	-21.57	-13	-8.57	-28.47	10.59	3.68
	3296.800	-55.44	-13	-42.44	-63.35	12.17	4.26
	4121.000	-49.48	-13	-36.48	-57.36	12.61	4.74
	4945.200	-51.67	-13	-38.67	-59.06	12.65	5.26
	5769.400	-48.52	-13	-35.52	-55.84	13.06	5.74
V	1648.400	-43.32	-13	-30.32	-49.62	9.29	2.99
	2472.600	-27.09	-13	-14.09	-33.99	10.59	3.68
	3296.800	-55.07	-13	-42.07	-62.98	12.17	4.26
	4121.000	-51.99	-13	-38.99	-59.87	12.61	4.74
	4945.200	-49.82	-13	-36.82	-57.21	12.65	5.26
	5769.400	-48.40	-13	-35.40	-55.72	13.06	5.74

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B5_BW 3.75K_CH 20525_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1673.000	-43.40	-13	-30.40	-49.75	9.36	3.01
	2509.500	-24.53	-13	-11.53	-31.44	10.62	3.71
	3346.000	-55.10	-13	-42.10	-63.08	12.27	4.30
	4182.500	-52.64	-13	-39.64	-60.48	12.62	4.78
	5019.000	-51.18	-13	-38.18	-58.54	12.67	5.31
	5855.500	-47.23	-13	-34.23	-54.50	13.04	5.77
V	1673.000	-46.61	-13	-33.61	-52.96	9.36	3.01
	2509.500	-29.12	-13	-16.12	-36.03	10.62	3.71
	3346.000	-55.11	-13	-42.11	-63.09	12.27	4.30
	4182.500	-53.14	-13	-40.14	-60.98	12.62	4.78
	5019.000	-51.75	-13	-38.75	-59.11	12.67	5.31
	5855.500	-47.62	-13	-34.62	-54.89	13.04	5.77

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B5_BW 3.75K_CH 20648_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1697.600	-43.24	-13	-30.24	-49.64	9.44	3.03
	2546.400	-22.46	-13	-9.46	-29.41	10.69	3.74
	3395.200	-53.07	-13	-40.07	-61.12	12.38	4.33
	4244.000	-53.59	-13	-40.59	-61.39	12.63	4.82
	5092.800	-51.82	-13	-38.82	-59.20	12.74	5.36
	5941.600	-50.39	-13	-37.39	-57.61	13.02	5.80
V	1697.600	-44.22	-13	-31.22	-50.62	9.44	3.03
	2546.400	-24.52	-13	-11.52	-31.47	10.69	3.74
	3395.200	-52.74	-13	-39.74	-60.79	12.38	4.33
	4244.000	-53.00	-13	-40.00	-60.80	12.63	4.82
	5092.800	-51.03	-13	-38.03	-58.41	12.74	5.36
	5941.600	-49.89	-13	-36.89	-57.11	13.02	5.80

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B5_BW 15K_CH 20402_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1648.400	-39.75	-13	-26.75	-46.05	9.29	2.99
	2472.600	-22.29	-13	-9.29	-29.19	10.59	3.68
	3296.800	-55.22	-13	-42.22	-63.13	12.17	4.26
	4121.000	-51.20	-13	-38.20	-59.08	12.61	4.74
	4945.200	-50.59	-13	-37.59	-57.98	12.65	5.26
	5769.400	-47.44	-13	-34.44	-54.76	13.06	5.74
V	1648.400	-44.62	-13	-31.62	-50.92	9.29	2.99
	2472.600	-28.00	-13	-15.00	-34.90	10.59	3.68
	3296.800	-55.01	-13	-42.01	-62.92	12.17	4.26
	4121.000	-52.41	-13	-39.41	-60.29	12.61	4.74
	4945.200	-50.84	-13	-37.84	-58.23	12.65	5.26
	5769.400	-48.02	-13	-35.02	-55.34	13.06	5.74

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B5_BW 15K_CH 20525_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1673.000	-42.68	-13	-29.68	-49.03	9.36	3.01
	2509.500	-24.45	-13	-11.45	-31.36	10.62	3.71
	3346.000	-54.54	-13	-41.54	-62.52	12.27	4.30
	4182.500	-53.41	-13	-40.41	-61.25	12.62	4.78
	5019.000	-51.52	-13	-38.52	-58.88	12.67	5.31
	5855.500	-48.03	-13	-35.03	-55.30	13.04	5.77
V	1673.000	-47.41	-13	-34.41	-53.76	9.36	3.01
	2509.500	-29.00	-13	-16.00	-35.91	10.62	3.71
	3346.000	-54.97	-13	-41.97	-62.95	12.27	4.30
	4182.500	-52.95	-13	-39.95	-60.79	12.62	4.78
	5019.000	-51.51	-13	-38.51	-58.87	12.67	5.31
	5855.500	-47.58	-13	-34.58	-54.85	13.04	5.77

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B5_BW 15K_CH 20648_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1697.800	-45.48	-13	-32.48	-51.88	9.44	3.03
	2546.700	-25.64	-13	-12.64	-32.59	10.69	3.74
	3395.600	-53.74	-13	-40.74	-61.79	12.38	4.33
	4244.500	-52.97	-13	-39.97	-60.77	12.63	4.82
	5093.400	-50.22	-13	-37.22	-57.60	12.74	5.36
	5942.300	-50.14	-13	-37.14	-57.36	13.02	5.80
V	1697.800	-48.66	-13	-35.66	-55.06	9.44	3.03
	2546.700	-30.61	-13	-17.61	-37.56	10.69	3.74
	3395.600	-53.83	-13	-40.83	-61.88	12.38	4.33
	4244.500	-53.24	-13	-40.24	-61.04	12.63	4.82
	5093.400	-51.34	-13	-38.34	-58.72	12.74	5.36
	5942.300	-50.05	-13	-37.05	-57.27	13.02	5.80

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B12_BW 3.75K_CH 23011_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1398.200	-53.81	-13	-40.81	-59.33	8.26	2.74
	2097.300	-33.11	-13	-20.11	-40.11	10.40	3.40
	2796.400	-54.34	-13	-41.34	-61.58	11.15	3.90
	3495.500	-55.59	-13	-42.59	-63.78	12.60	4.41
	4194.600	-53.10	-13	-40.10	-60.93	12.62	4.79
	4893.700	-50.38	-13	-37.38	-57.80	12.65	5.23
V	1398.200	-55.39	-13	-42.39	-60.91	8.26	2.74
	2097.300	-36.61	-13	-23.61	-43.61	10.40	3.40
	2796.400	-54.46	-13	-41.46	-61.70	11.15	3.90
	3495.500	-55.98	-13	-42.98	-64.17	12.60	4.41
	4194.600	-54.02	-13	-41.02	-61.85	12.62	4.79
	4893.700	-50.87	-13	-37.87	-58.29	12.65	5.23

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B12_BW 3.75K_CH 23095_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1415.000	-50.58	-13	-37.58	-56.18	8.35	2.75
	2122.500	-35.32	-13	-22.32	-42.31	10.41	3.42
	2830.000	-54.44	-13	-41.44	-61.72	11.21	3.93
	3537.500	-55.27	-13	-42.27	-63.45	12.61	4.43
	4245.000	-53.14	-13	-40.14	-60.94	12.63	4.83
	4952.500	-50.97	-13	-37.97	-58.36	12.65	5.26
V	1415.000	-54.43	-13	-41.43	-60.03	8.35	2.75
	2122.500	-37.85	-13	-24.85	-44.84	10.41	3.42
	2830.000	-54.47	-13	-41.47	-61.75	11.21	3.93
	3537.500	-54.62	-13	-41.62	-62.80	12.61	4.43
	4245.000	-52.79	-13	-39.79	-60.59	12.63	4.83
	4952.500	-52.29	-13	-39.29	-59.68	12.65	5.26

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B12_BW 3.75K_CH 23178_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1431.600	-49.63	-13	-36.63	-55.31	8.45	2.77
	2147.400	-32.91	-13	-19.91	-39.90	10.42	3.44
	2863.200	-54.01	-13	-41.01	-61.33	11.27	3.95
	3579.000	-53.62	-13	-40.62	-61.78	12.61	4.45
	4294.800	-52.39	-13	-39.39	-60.17	12.64	4.86
	5010.600	-51.50	-13	-38.50	-58.86	12.66	5.30
V	1431.600	-54.05	-13	-41.05	-59.73	8.45	2.77
	2147.400	-38.07	-13	-25.07	-45.06	10.42	3.44
	2863.200	-54.52	-13	-41.52	-61.84	11.27	3.95
	3579.000	-54.30	-13	-41.30	-62.46	12.61	4.45
	4294.800	-52.33	-13	-39.33	-60.11	12.64	4.86
	5010.600	-51.19	-13	-38.19	-58.55	12.66	5.30

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B12_BW 15K_CH 23011_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1398.200	-54.51	-13	-41.51	-60.03	8.26	2.74
	2097.300	-34.74	-13	-21.74	-41.74	10.40	3.40
	2796.400	-55.10	-13	-42.10	-62.34	11.15	3.90
	3495.500	-55.97	-13	-42.97	-64.16	12.60	4.41
	4194.600	-53.98	-13	-40.98	-61.81	12.62	4.79
	4893.700	-50.95	-13	-37.95	-58.37	12.65	5.23
V	1398.200	-57.53	-13	-44.53	-63.05	8.26	2.74
	2097.300	-38.16	-13	-25.16	-45.16	10.40	3.40
	2796.400	-55.04	-13	-42.04	-62.28	11.15	3.90
	3495.500	-56.31	-13	-43.31	-64.50	12.60	4.41
	4194.600	-54.07	-13	-41.07	-61.90	12.62	4.79
	4893.700	-50.88	-13	-37.88	-58.30	12.65	5.23

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B12_BW 15K_CH 23095_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1415.000	-50.50	-13	-37.50	-56.10	8.35	2.75
	2122.500	-36.45	-13	-23.45	-43.44	10.41	3.42
	2830.000	-54.85	-13	-41.85	-62.13	11.21	3.93
	3537.500	-55.54	-13	-42.54	-63.72	12.61	4.43
	4245.000	-52.93	-13	-39.93	-60.73	12.63	4.83
	4952.500	-51.90	-13	-38.90	-59.29	12.65	5.26
V	1415.000	-54.66	-13	-41.66	-60.26	8.35	2.75
	2122.500	-39.42	-13	-26.42	-46.41	10.41	3.42
	2830.000	-54.79	-13	-41.79	-62.07	11.21	3.93
	3537.500	-56.23	-13	-43.23	-64.41	12.61	4.43
	4245.000	-53.46	-13	-40.46	-61.26	12.63	4.83
	4952.500	-52.32	-13	-39.32	-59.71	12.65	5.26

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B12_BW 15K_CH 23178_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1431.600	-50.32	-13	-37.32	-56.00	8.45	2.77
	2147.400	-34.47	-13	-21.47	-41.46	10.42	3.44
	2863.200	-54.39	-13	-41.39	-61.71	11.27	3.95
	3579.000	-55.02	-13	-42.02	-63.18	12.61	4.45
	4294.800	-51.92	-13	-38.92	-59.70	12.64	4.86
	5010.600	-51.26	-13	-38.26	-58.62	12.66	5.30
V	1431.600	-53.79	-13	-40.79	-59.47	8.45	2.77
	2147.400	-39.53	-13	-26.53	-46.52	10.42	3.44
	2863.200	-54.81	-13	-41.81	-62.13	11.27	3.95
	3579.000	-55.30	-13	-42.30	-63.46	12.61	4.45
	4294.800	-52.91	-13	-39.91	-60.69	12.64	4.86
	5010.600	-51.67	-13	-38.67	-59.03	12.66	5.30

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B13_BW 3.75K_CH 23182_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1554.400	-40.60	-13	-27.60	-46.71	9.00	2.90
	2331.600	-21.10	-13	-8.10	-28.04	10.52	3.58
	3108.800	-54.43	-13	-41.43	-62.06	11.76	4.12
	3886.000	-51.47	-13	-38.47	-59.47	12.60	4.60
	4663.200	-51.87	-13	-38.87	-59.43	12.66	5.10
	5440.400	-50.85	-13	-37.85	-58.32	13.08	5.61
V	1554.400	-44.79	-13	-31.79	-50.90	9.00	2.90
	2331.600	-23.56	-13	-10.56	-30.50	10.52	3.58
	3108.800	-54.52	-13	-41.52	-62.15	11.76	4.12
	3886.000	-54.49	-13	-41.49	-62.49	12.60	4.60
	4663.200	-52.29	-13	-39.29	-59.85	12.66	5.10
	5440.400	-51.06	-13	-38.06	-58.53	13.08	5.61

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B13_BW 3.75K_CH 23230_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1564.000	-40.11	-13	-27.11	-46.24	9.03	2.91
	2346.000	-21.26	-13	-8.26	-28.20	10.52	3.59
	3128.000	-53.89	-13	-40.89	-61.55	11.80	4.14
	3910.000	-49.77	-13	-36.77	-57.76	12.60	4.61
	4692.000	-52.25	-13	-39.25	-59.79	12.66	5.11
	5474.000	-50.80	-13	-37.80	-58.28	13.11	5.63
V	1564.000	-45.03	-13	-32.03	-51.16	9.03	2.91
	2346.000	-24.12	-13	-11.12	-31.06	10.52	3.59
	3128.000	-54.19	-13	-41.19	-61.85	11.80	4.14
	3910.000	-54.57	-13	-41.57	-62.56	12.60	4.61
	4692.000	-52.48	-13	-39.48	-60.02	12.66	5.11
	5474.000	-50.71	-13	-37.71	-58.19	13.11	5.63

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B13_BW 3.75K_CH 23278_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1573.600	-38.80	-13	-25.80	-44.95	9.06	2.92
	2360.400	-20.65	-13	-7.65	-27.58	10.53	3.60
	3147.200	-54.67	-13	-41.67	-62.36	11.84	4.15
	3934.000	-51.50	-13	-38.50	-59.48	12.60	4.62
	4720.800	-51.91	-13	-38.91	-59.44	12.66	5.13
	5507.600	-50.60	-13	-37.60	-58.08	13.14	5.65
V	1573.600	-45.43	-13	-32.43	-51.58	9.06	2.92
	2360.400	-24.27	-13	-11.27	-31.20	10.53	3.60
	3147.200	-54.77	-13	-41.77	-62.46	11.84	4.15
	3934.000	-55.04	-13	-42.04	-63.02	12.60	4.62
	4720.800	-52.14	-13	-39.14	-59.67	12.66	5.13
	5507.600	-50.63	-13	-37.63	-58.11	13.14	5.65

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B13_BW 15K_CH 23182_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1554.400	-41.57	-13	-28.57	-47.68	9.00	2.90
	2331.600	-22.24	-13	-9.24	-29.18	10.52	3.58
	3108.800	-54.16	-13	-41.16	-61.79	11.76	4.12
	3886.000	-50.20	-13	-37.20	-58.20	12.60	4.60
	4663.200	-52.50	-13	-39.50	-60.06	12.66	5.10
	5440.400	-50.64	-13	-37.64	-58.11	13.08	5.61
V	1554.400	-45.21	-13	-32.21	-51.32	9.00	2.90
	2331.600	-25.06	-13	-12.06	-32.00	10.52	3.58
	3108.800	-54.73	-13	-41.73	-62.36	11.76	4.12
	3886.000	-54.86	-13	-41.86	-62.86	12.60	4.60
	4663.200	-52.19	-13	-39.19	-59.75	12.66	5.10
	5440.400	-51.08	-13	-38.08	-58.55	13.08	5.61

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B13_BW 15K_CH 23230_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1564.000	-40.40	-13	-27.40	-46.53	9.03	2.91
	2346.000	-22.21	-13	-9.21	-29.15	10.52	3.59
	3128.000	-54.17	-13	-41.17	-61.83	11.80	4.14
	3910.000	-48.87	-13	-35.87	-56.86	12.60	4.61
	4692.000	-52.60	-13	-39.60	-60.14	12.66	5.11
	5474.000	-50.78	-13	-37.78	-58.26	13.11	5.63
V	1564.000	-45.93	-13	-32.93	-52.06	9.03	2.91
	2346.000	-25.29	-13	-12.29	-32.23	10.52	3.59
	3128.000	-53.94	-13	-40.94	-61.60	11.80	4.14
	3910.000	-54.55	-13	-41.55	-62.54	12.60	4.61
	4692.000	-52.66	-13	-39.66	-60.20	12.66	5.11
	5474.000	-50.44	-13	-37.44	-57.92	13.11	5.63

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B13_BW 15K_CH 23278_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	1573.600	-39.05	-13	-26.05	-45.20	9.06	2.92
	2360.400	-22.03	-13	-9.03	-28.96	10.53	3.60
	3147.200	-54.41	-13	-41.41	-62.10	11.84	4.15
	3934.000	-52.06	-13	-39.06	-60.04	12.60	4.62
	4720.800	-52.26	-13	-39.26	-59.79	12.66	5.13
	5507.600	-50.89	-13	-37.89	-58.37	13.14	5.65
V	1573.600	-44.99	-13	-31.99	-51.14	9.06	2.92
	2360.400	-25.71	-13	-12.71	-32.64	10.53	3.60
	3147.200	-55.23	-13	-42.23	-62.92	11.84	4.15
	3934.000	-55.41	-13	-42.41	-63.39	12.60	4.62
	4720.800	-52.04	-13	-39.04	-59.57	12.66	5.13
	5507.600	-50.85	-13	-37.85	-58.33	13.14	5.65

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B66_BW 3.75K_CH 131974_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3420.400	-35.01	-13	-22.01	-43.09	12.44	4.35
	5130.600	-46.42	-13	-33.42	-53.81	12.78	5.39
	6840.800	-46.20	-13	-33.20	-51.68	11.84	6.36
	8551.000	-45.18	-13	-32.18	-50.14	11.87	6.91
	10261.200	-40.00	-13	-27.00	-44.25	11.87	7.61
	11971.400	-38.89	-13	-25.89	-43.79	13.12	8.22
V	3420.400	-39.47	-13	-26.47	-47.55	12.44	4.35
	5130.600	-40.59	-13	-27.59	-47.98	12.78	5.39
	6840.800	-46.06	-13	-33.06	-51.54	11.84	6.36
	8551.000	-45.38	-13	-32.38	-50.34	11.87	6.91
	10261.200	-40.28	-13	-27.28	-44.53	11.87	7.61
	11971.400	-39.58	-13	-26.58	-44.48	13.12	8.22

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B66_BW 3.75K_CH 132322_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3490.000	-33.70	-13	-20.70	-41.89	12.59	4.40
	5235.000	-40.06	-13	-27.06	-47.48	12.88	5.46
	6980.000	-44.42	-13	-31.42	-49.58	11.67	6.51
	8725.000	-47.76	-13	-34.76	-52.67	11.88	6.97
	10470.000	-40.43	-13	-27.43	-44.39	11.69	7.73
	12215.000	-38.52	-13	-25.52	-43.70	13.47	8.29
V	3490.000	-39.65	-13	-26.65	-47.84	12.59	4.40
	5235.000	-38.61	-13	-25.61	-46.03	12.88	5.46
	6980.000	-44.94	-13	-31.94	-50.10	11.67	6.51
	8725.000	-47.81	-13	-34.81	-52.72	11.88	6.97
	10470.000	-40.76	-13	-27.76	-44.72	11.69	7.73
	12215.000	-38.31	-13	-25.31	-43.49	13.47	8.29

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B66_BW 3.75K_CH 132670_BPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3559.600	-30.59	-13	-17.59	-38.76	12.61	4.44
	5339.400	-38.15	-13	-25.15	-45.60	12.98	5.54
	7119.200	-45.26	-13	-32.26	-50.25	11.55	6.56
	8899.000	-44.99	-13	-31.99	-49.84	11.88	7.03
	10678.800	-39.95	-13	-26.95	-43.76	11.61	7.80
	12458.600	-38.57	-13	-25.57	-44.01	13.80	8.36
V	3559.600	-37.24	-13	-24.24	-45.41	12.61	4.44
	5339.400	-35.42	-13	-22.42	-42.87	12.98	5.54
	7119.200	-46.42	-13	-33.42	-51.41	11.55	6.56
	8899.000	-43.44	-13	-30.44	-48.29	11.88	7.03
	10678.800	-40.10	-13	-27.10	-43.91	11.61	7.80
	12458.600	-38.62	-13	-25.62	-44.06	13.80	8.36

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

B66_BW 15K_CH 131974_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3420.400	-35.59	-13	-22.59	-43.67	12.44	4.35
	5130.600	-48.37	-13	-35.37	-55.76	12.78	5.39
	6840.800	-46.51	-13	-33.51	-51.99	11.84	6.36
	8551.000	-44.98	-13	-31.98	-49.94	11.87	6.91
	10261.200	-40.14	-13	-27.14	-44.39	11.87	7.61
	11971.400	-39.38	-13	-26.38	-44.28	13.12	8.22
V	3420.400	-39.97	-13	-26.97	-48.05	12.44	4.35
	5130.600	-42.58	-13	-29.58	-49.97	12.78	5.39
	6840.800	-46.69	-13	-33.69	-52.17	11.84	6.36
	8551.000	-45.08	-13	-32.08	-50.04	11.87	6.91
	10261.200	-40.02	-13	-27.02	-44.27	11.87	7.61
	11971.400	-39.69	-13	-26.69	-44.59	13.12	8.22

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions (Radiated)		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/17~2019/09/18	Test Site	CB4-H

B66_BW 15K_CH 132322_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3490.000	-34.80	-13	-21.80	-42.99	12.59	4.40
	5235.000	-41.72	-13	-28.72	-49.14	12.88	5.46
	6980.000	-44.88	-13	-31.88	-50.04	11.67	6.51
	8725.000	-47.52	-13	-34.52	-52.43	11.88	6.97
	10470.000	-40.65	-13	-27.65	-44.61	11.69	7.73
	12215.000	-38.47	-13	-25.47	-43.65	13.47	8.29
V	3490.000	-40.26	-13	-27.26	-48.45	12.59	4.40
	5235.000	-38.43	-13	-25.43	-45.85	12.88	5.46
	6980.000	-45.00	-13	-32.00	-50.16	11.67	6.51
	8725.000	-47.45	-13	-34.45	-52.36	11.88	6.97
	10470.000	-40.45	-13	-27.45	-44.41	11.69	7.73
	12215.000	-38.89	-13	-25.89	-44.07	13.47	8.29

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

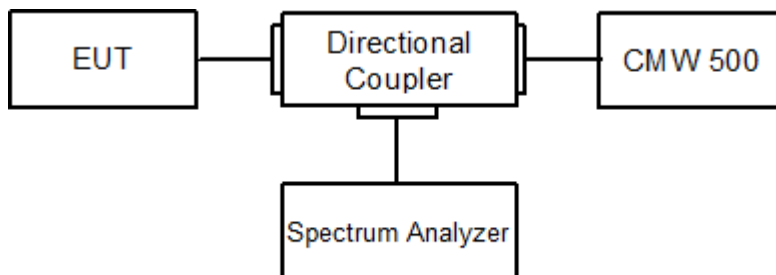
B66_BW 15K_CH 132670_QPSK_1RB0

Antenna Polarity	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Margin (dB)	SG Level (dBm)	Antenna Gain (dBi)	Cable Loss (dB)
H	3559.600	-32.78	-13	-19.78	-40.95	12.61	4.44
	5339.400	-38.98	-13	-25.98	-46.43	12.98	5.54
	7119.200	-46.26	-13	-33.26	-51.25	11.55	6.56
	8899.000	-45.94	-13	-32.94	-50.79	11.88	7.03
	10678.800	-39.64	-13	-26.64	-43.45	11.61	7.80
	12458.600	-39.35	-13	-26.35	-44.79	13.80	8.36
V	3559.600	-38.56	-13	-25.56	-46.73	12.61	4.44
	5339.400	-37.04	-13	-24.04	-44.49	12.98	5.54
	7119.200	-45.98	-13	-32.98	-50.97	11.55	6.56
	8899.000	-45.90	-13	-32.90	-50.75	11.88	7.03
	10678.800	-39.52	-13	-26.52	-43.33	11.61	7.80
	12458.600	-39.32	-13	-26.32	-44.76	13.80	8.36

Emission Level=SG(Signal Generator) Level+Antenna Gain-Cable Loss.

7. Spurious Emissions at Antenna Terminals

7.1. Test Setup



7.2. Test Procedure

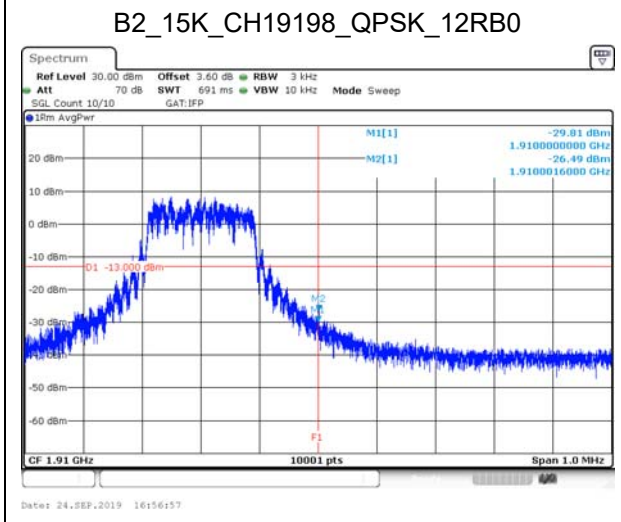
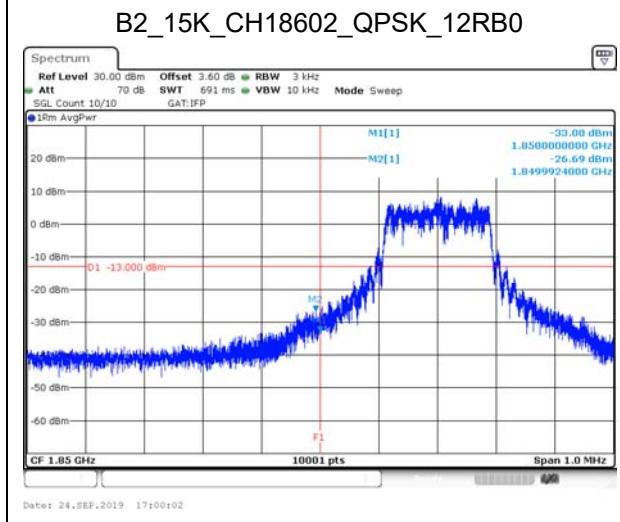
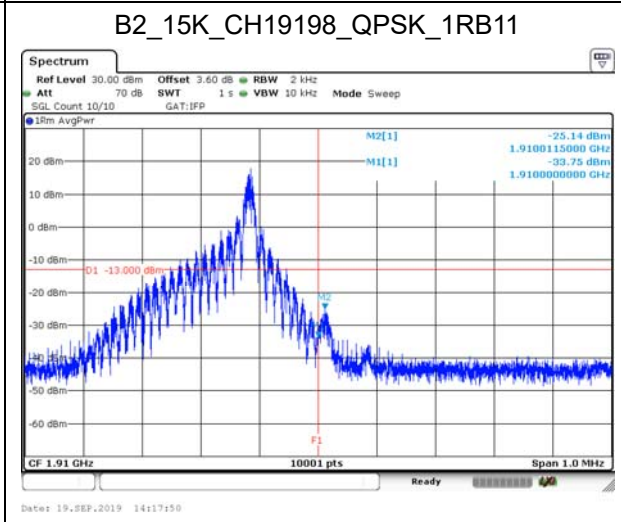
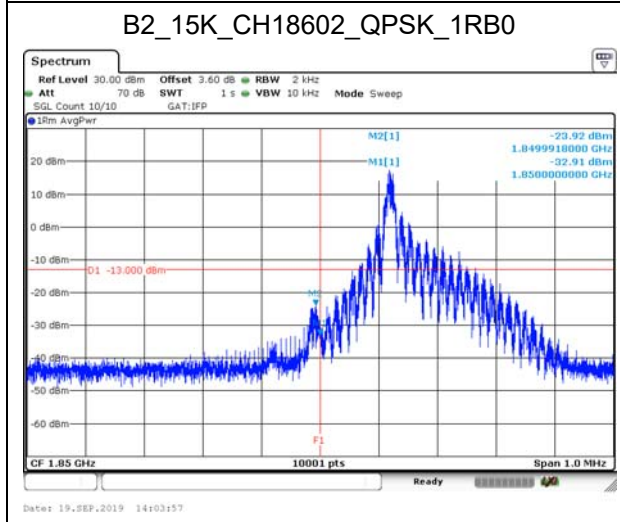
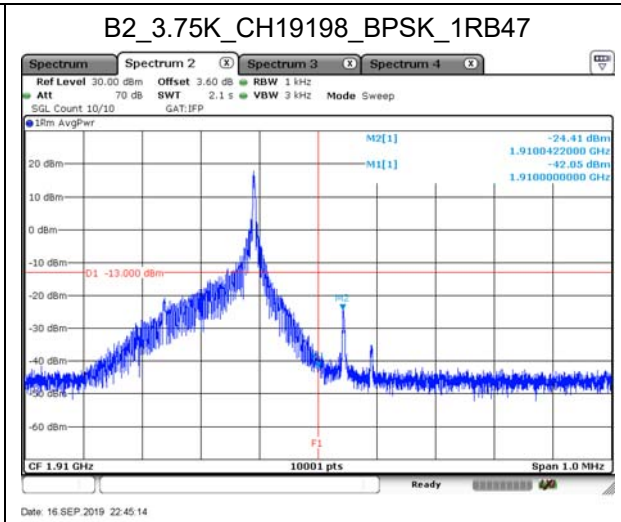
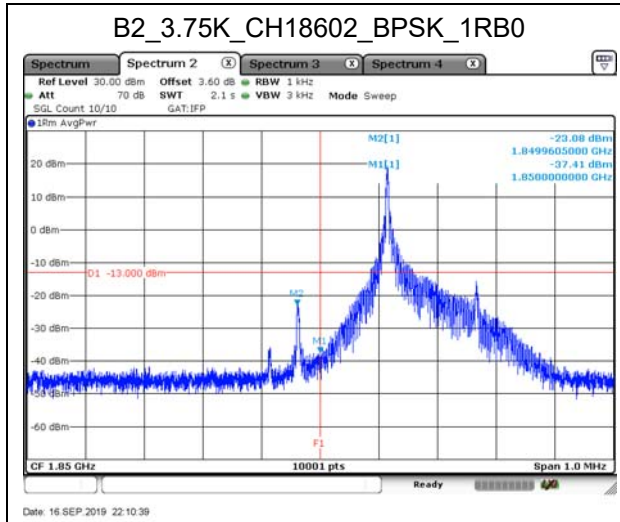
- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- c) EUT Communicate with CMW500, then selects a channel for testing.
- d) Add a correction factor to the display of spectrum, and then test.
- e) The resolution bandwidth of the spectrum analyzer was set at 1% of emission bandwidth;

7.3. Test Method

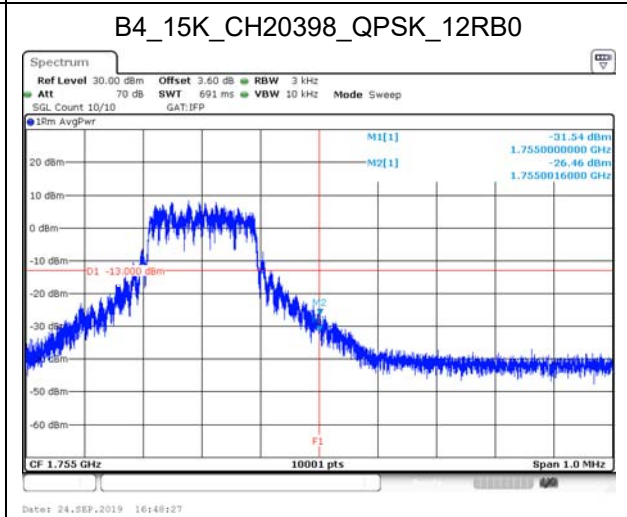
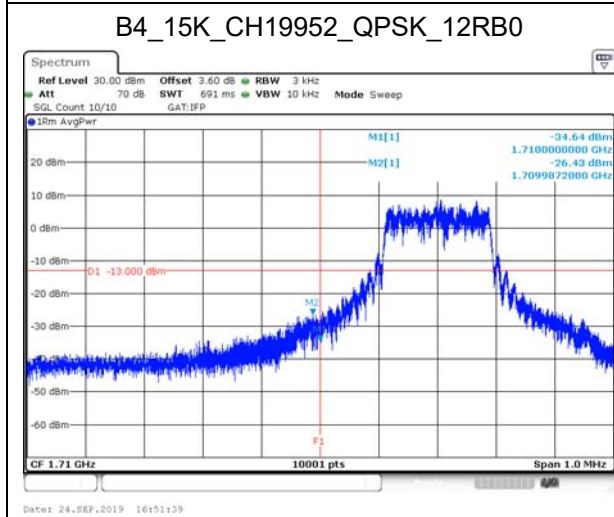
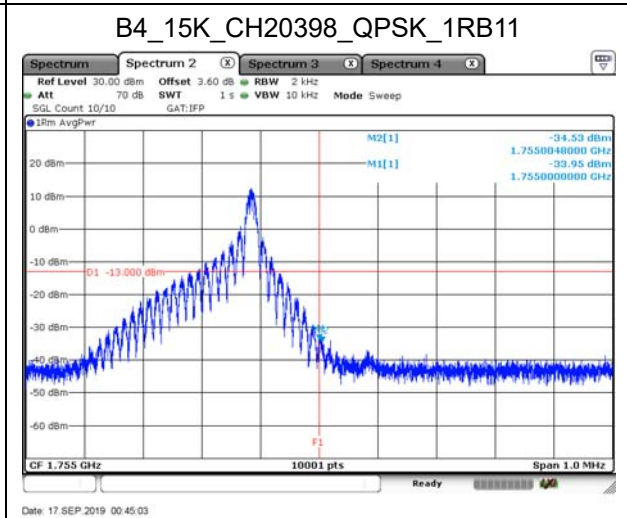
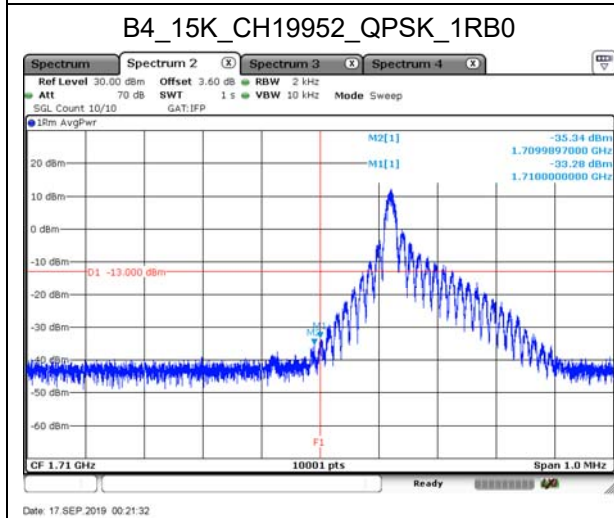
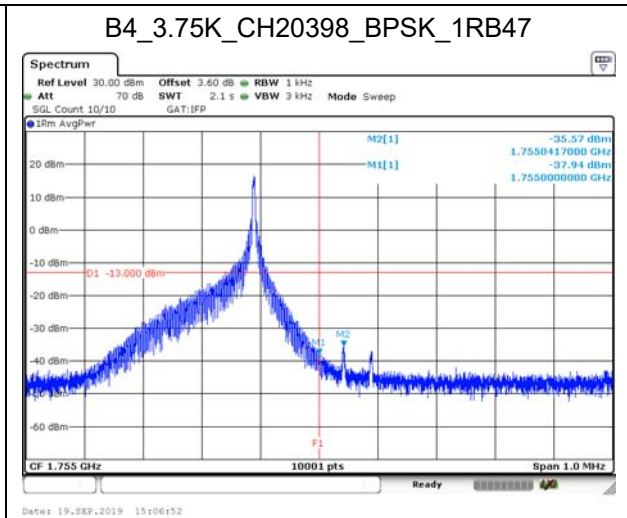
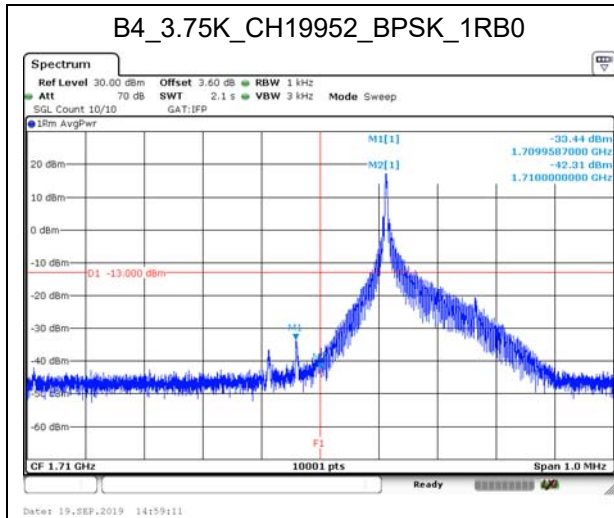
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 6.1
ANSI C63.26-2015 Sub-clause 5.7

7.4. Test Result

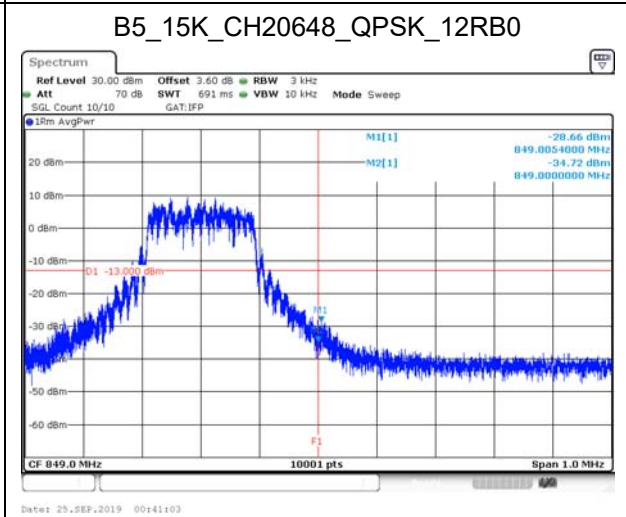
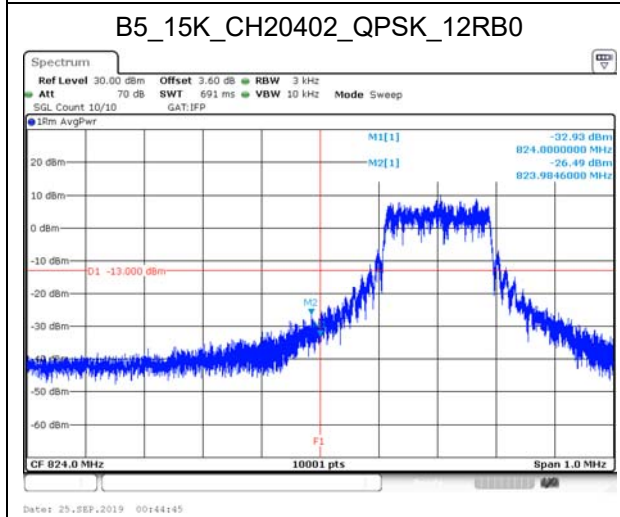
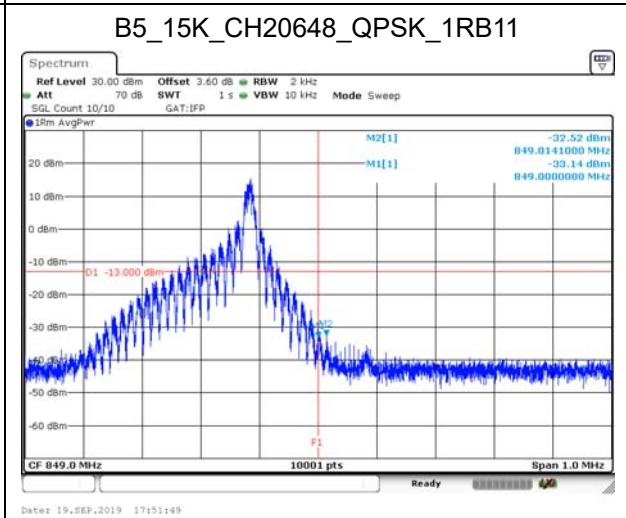
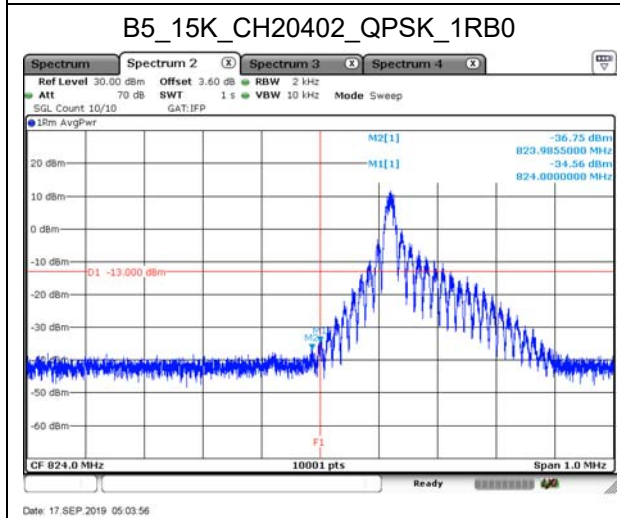
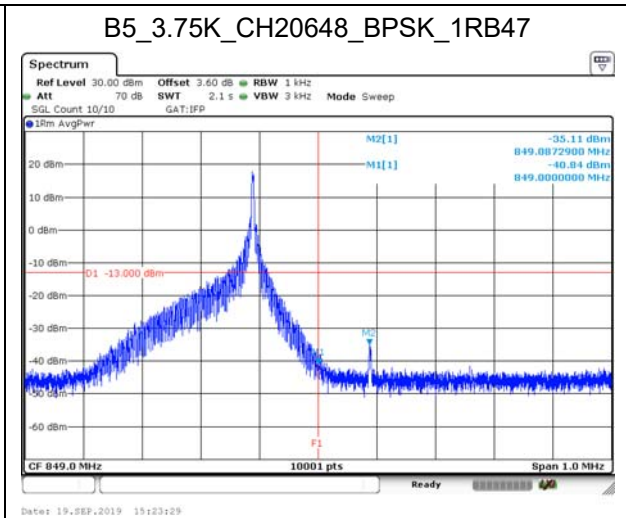
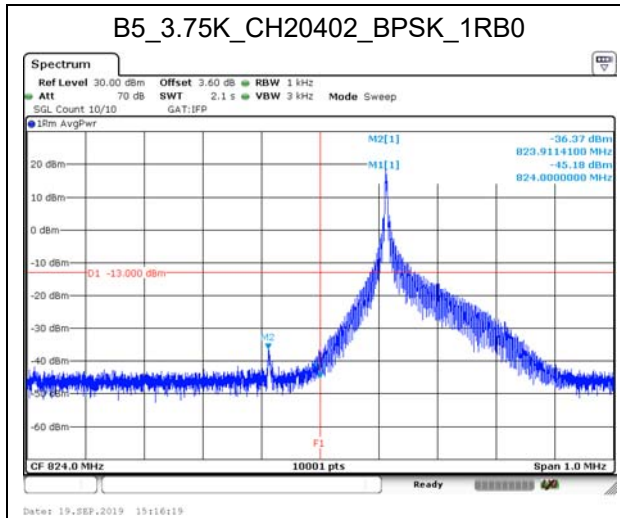
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/09/16~2019/09/24	Test Site	SR10-H



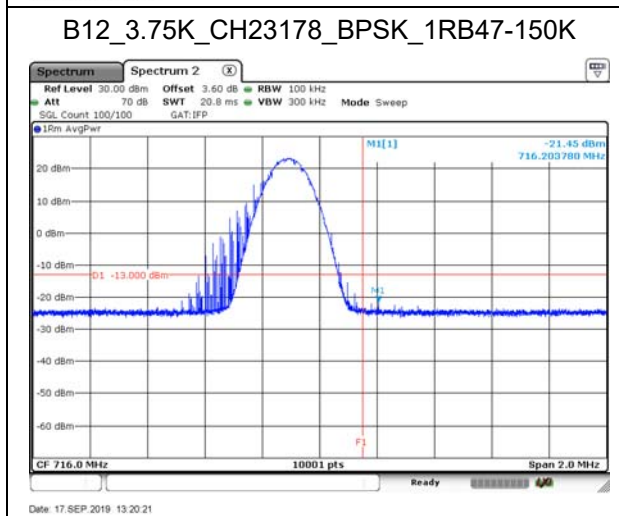
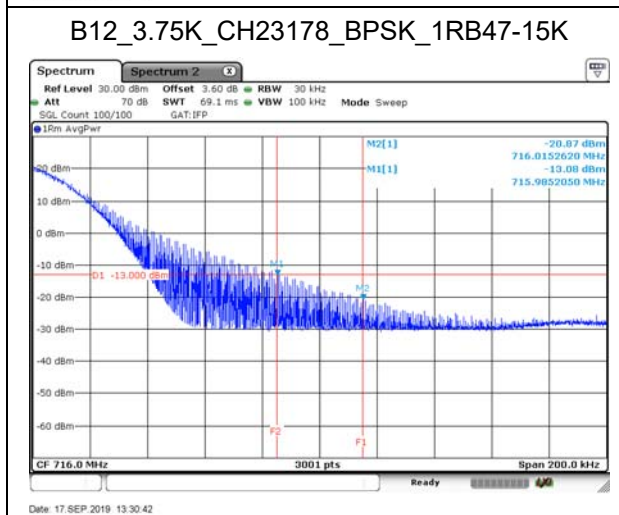
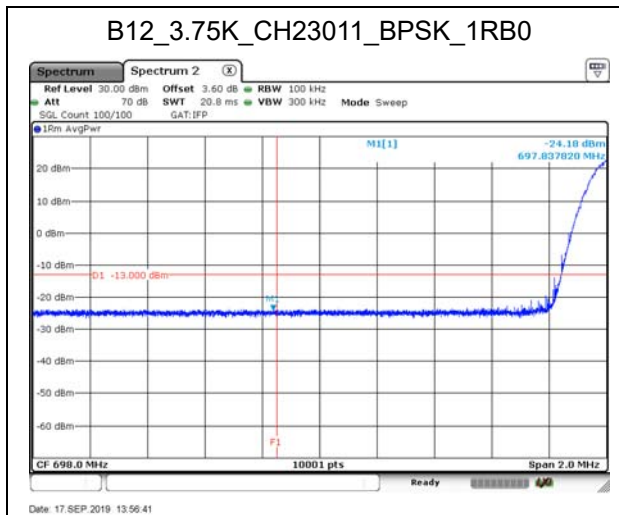
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/09/17~2019/09/24	Test Site	SR10-H



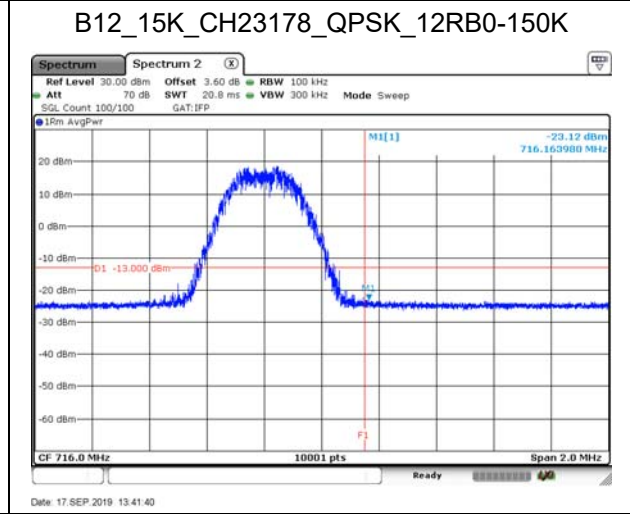
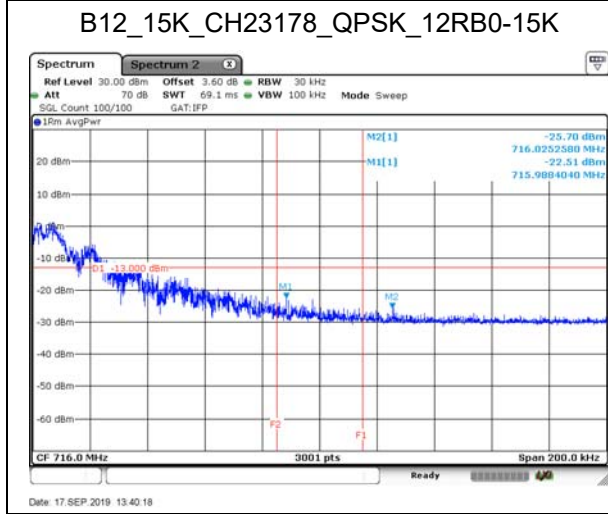
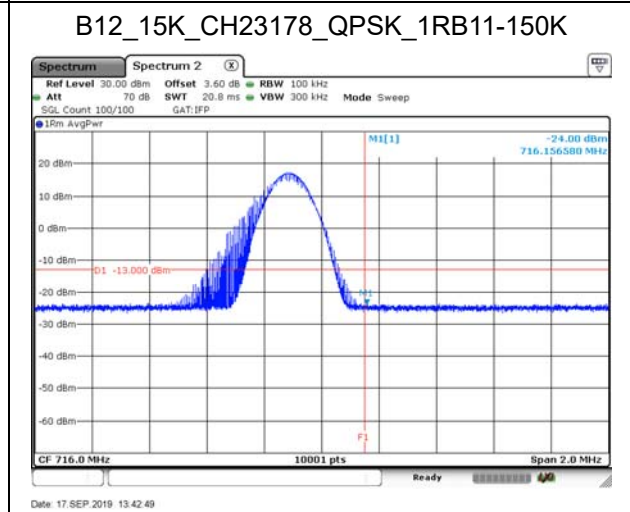
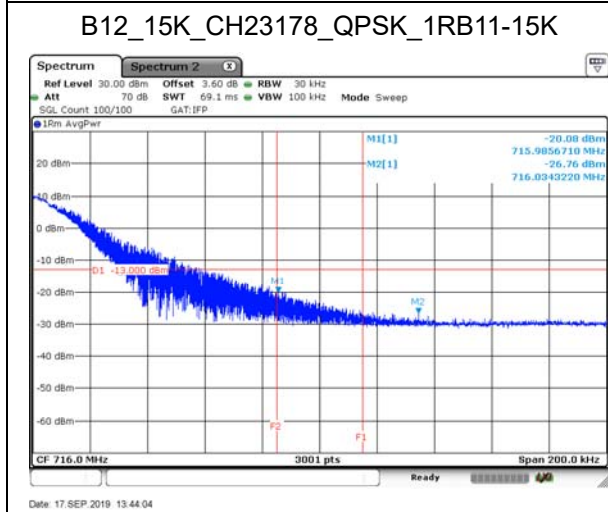
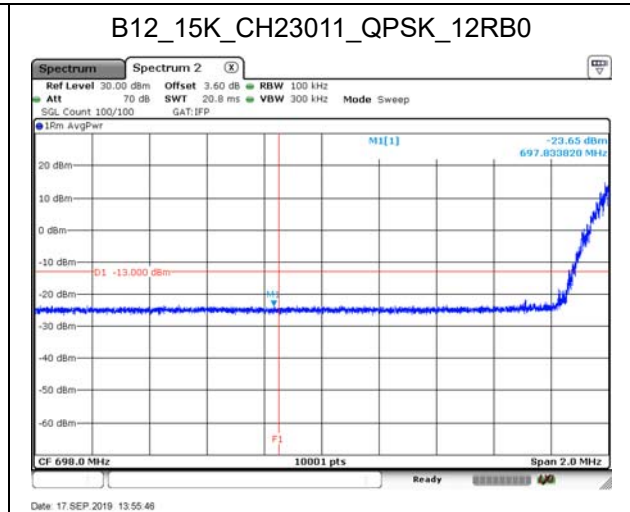
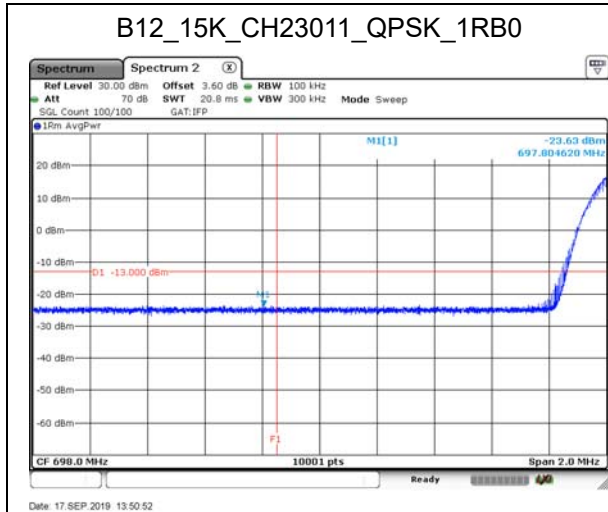
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/09/17~2019/09/24	Test Site	SR10-H



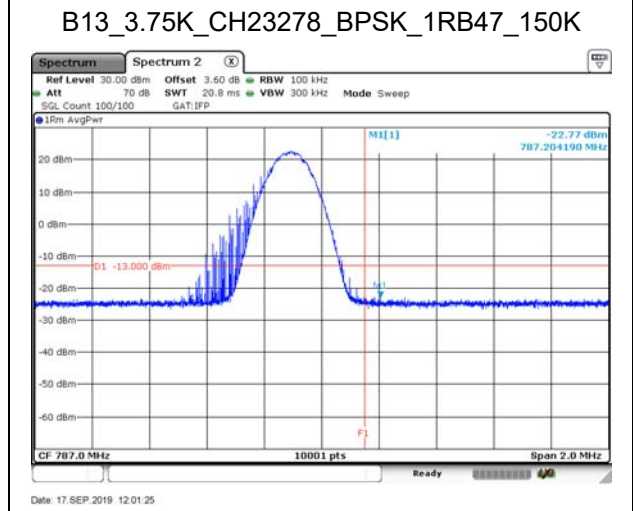
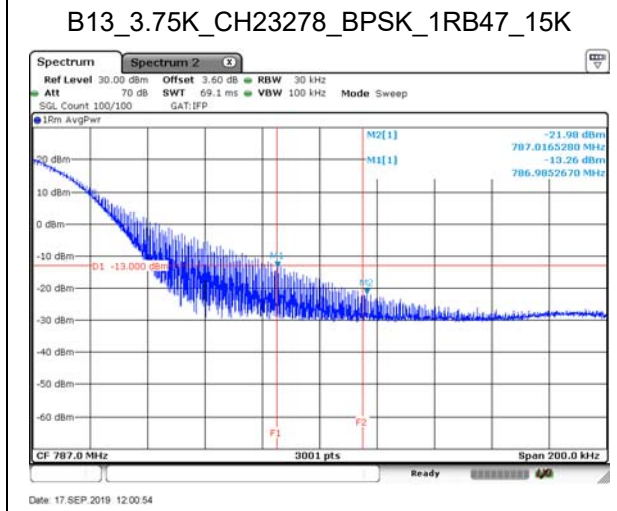
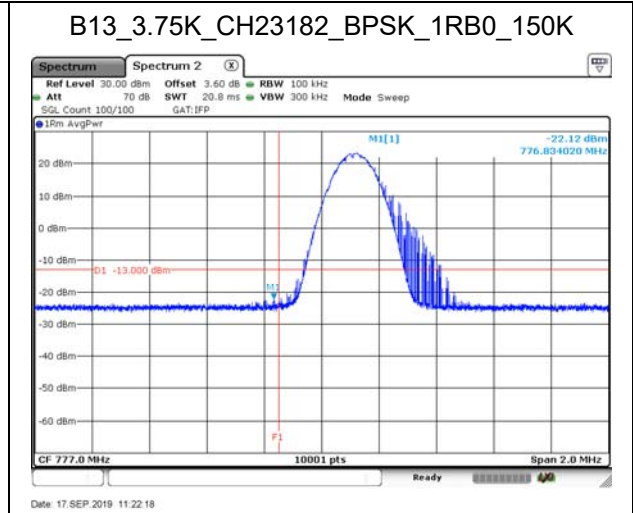
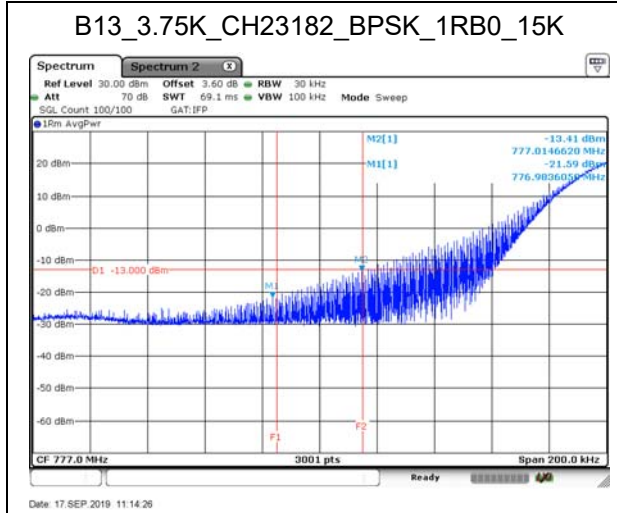
Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/09/17	Test Site	SR10-H



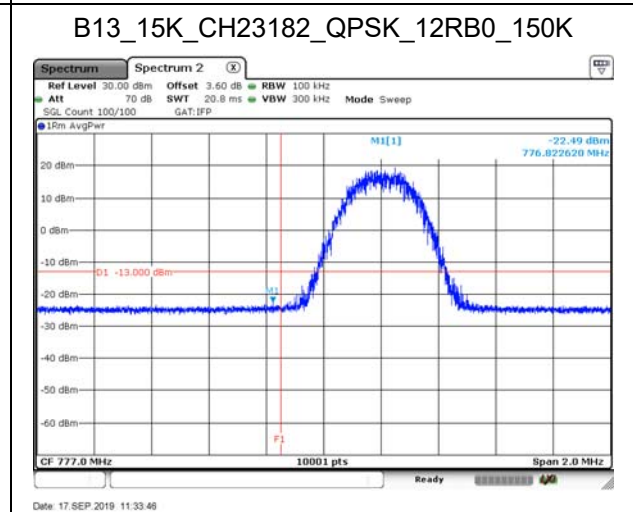
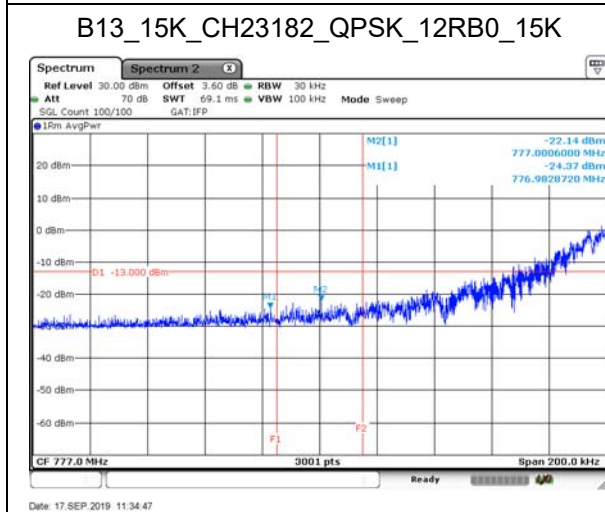
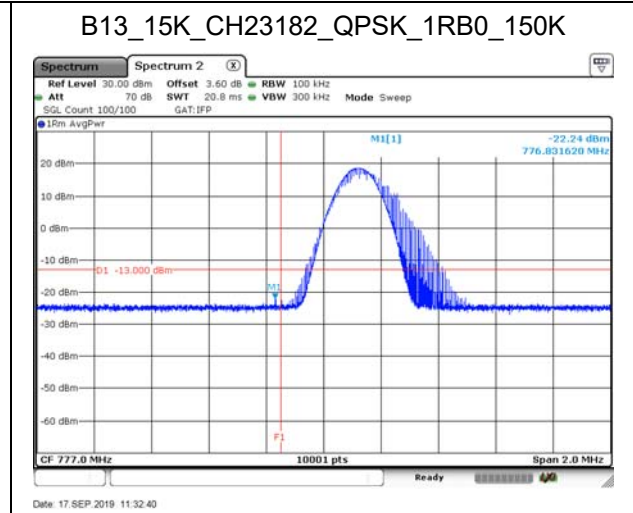
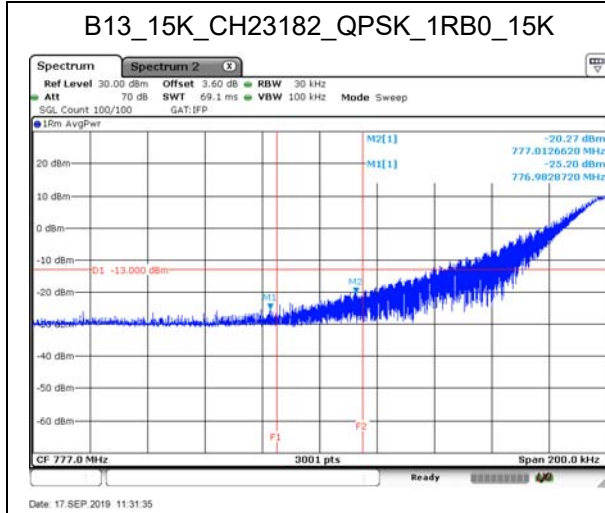
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/09/17	Test Site	SR10-H



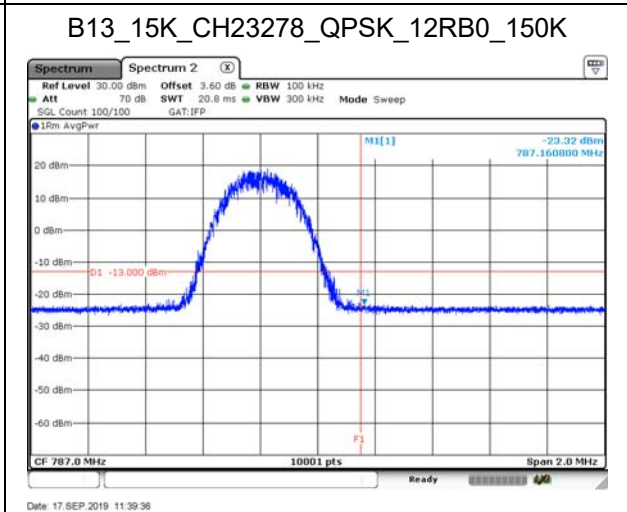
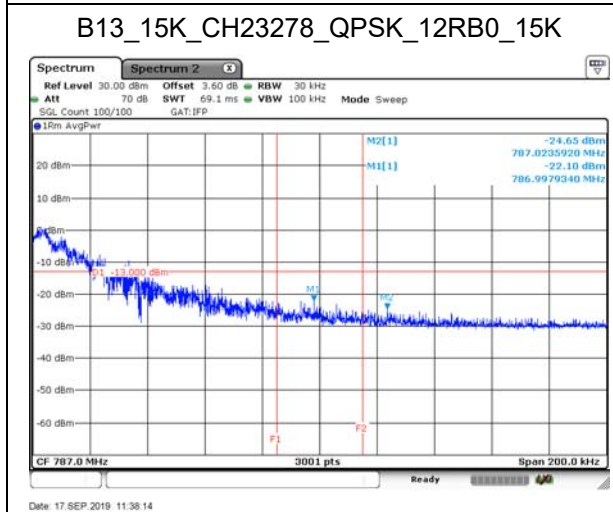
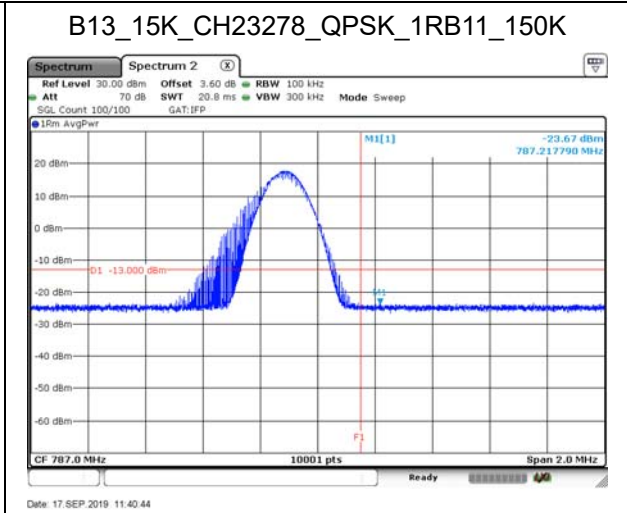
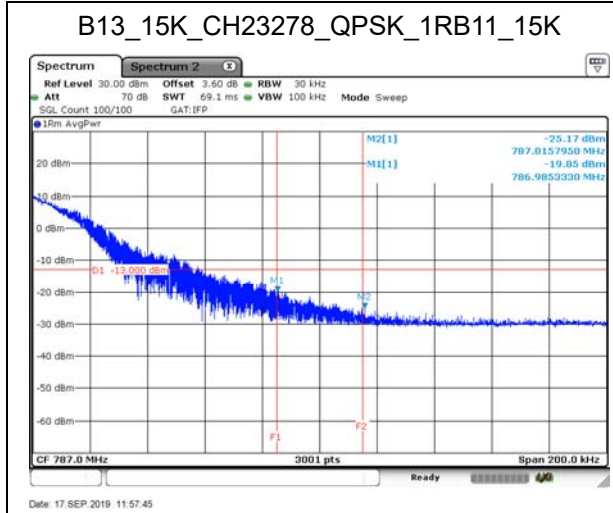
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/09/17	Test Site	SR10-H



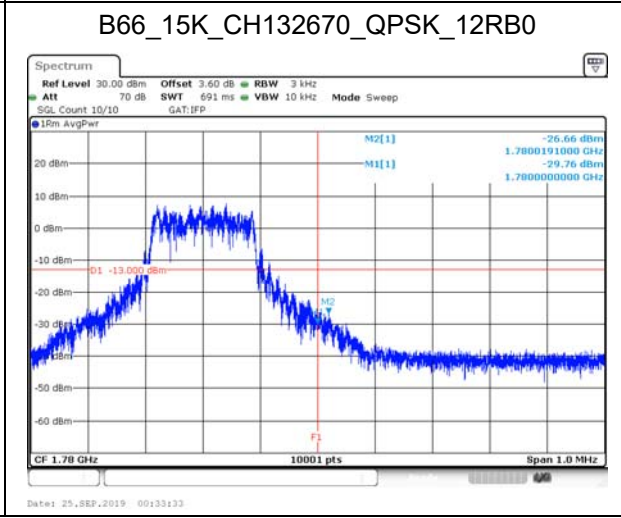
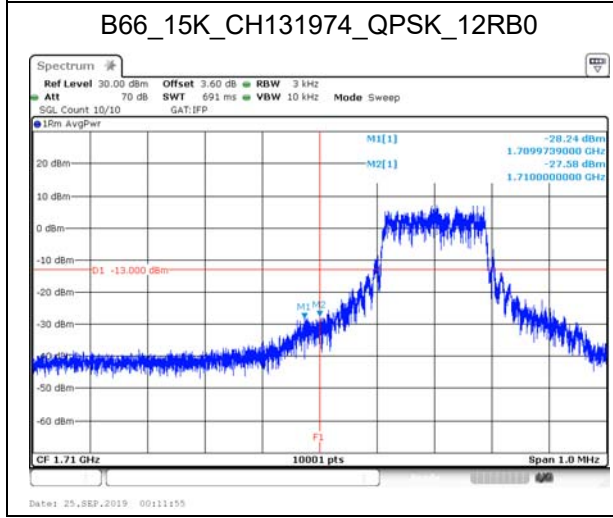
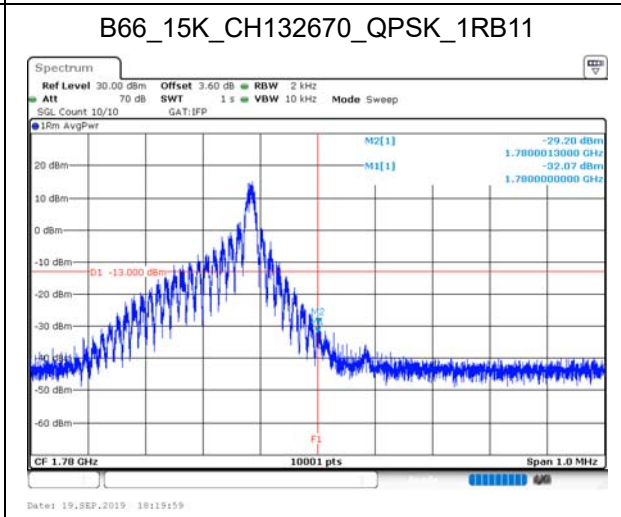
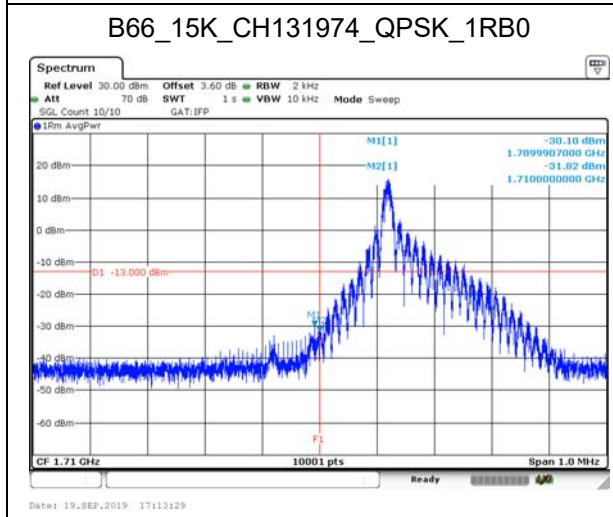
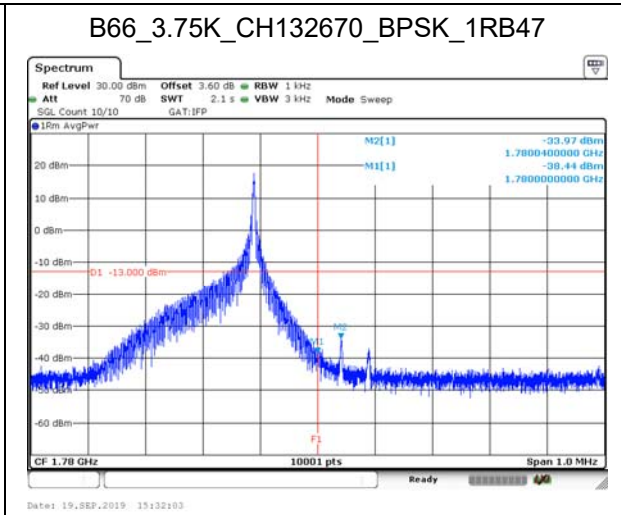
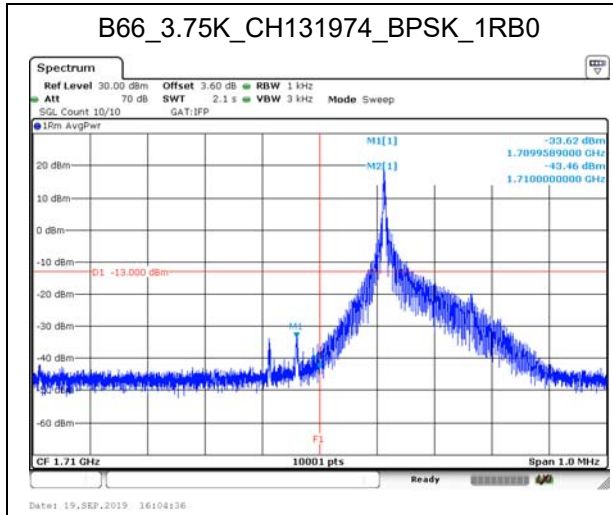
Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/09/17	Test Site	SR10-H



Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/09/17	Test Site	SR10-H

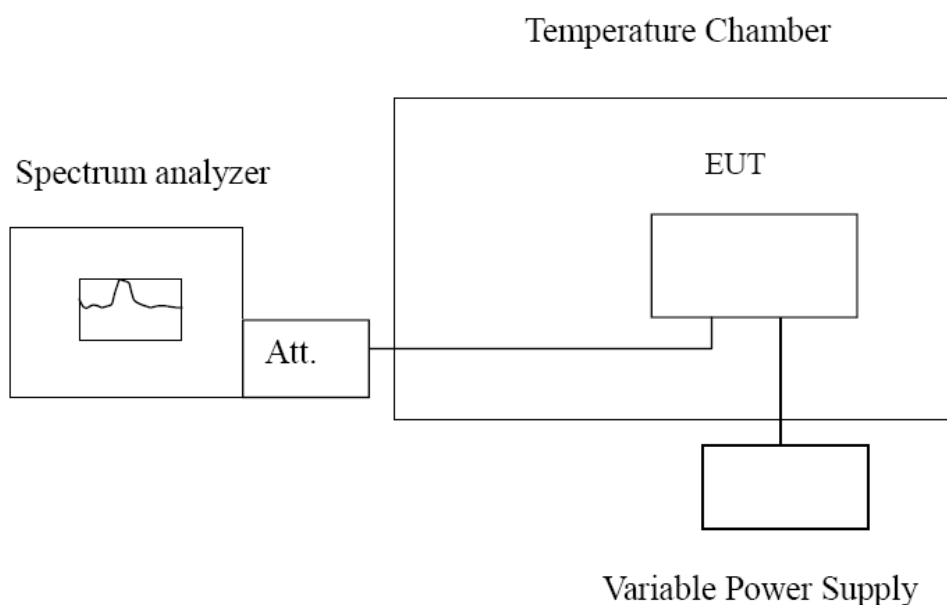


Product	NB-IoT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/09/19~2019/09/24	Test Site	SR10-H



8. Frequency Stability

8.1. Test Setup



8.2. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

8.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 9

ANSI C63.26-2015 Sub-clause 5.6

8.4. Test Result

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 2_1880MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-11	0.0059
3.8	10	-0.0053
3.4	3	-0.0016

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	-7	0.0037
-20	5	-0.0027
-10	7	-0.0037
0	1	-0.0005
10	-6	0.0032
20	-10	0.0053
30	10	-0.0053
40	6	-0.0032
50	11	-0.0059
60	11	-0.0059

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: LTE_NB-IoT_Band 2		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 2_1880MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	11	-0.0059
3.8	-4	0.0021
3.4	4	-0.0021

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	3	-0.0016
-20	2	-0.0011
-10	-11	0.0059
0	10	-0.0053
10	-6	0.0032
20	-3	0.0016
30	6	-0.0032
40	5	-0.0027
50	-3	0.0016
60	2	-0.0011

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 4_1732.5MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-10	0.0058
3.8	-6	0.0035
3.4	10	-0.0058

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	3	-0.0017
-20	-9	0.0052
-10	-6	0.0035
0	6	-0.0035
10	6	-0.0035
20	-11	0.0063
30	11	-0.0063
40	-8	0.0046
50	-4	0.0023
60	-11	0.0063

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 2: LTE_NB-IoT_Band 4		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 4_1732.5MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-3	0.0017
3.8	9	-0.0052
3.4	-2	0.0012

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	10	-0.0058
-20	-2	0.0012
-10	-1	0.0006
0	3	-0.0017
10	-6	0.0035
20	4	-0.0023
30	1	-0.0006
40	-11	0.0063
50	-10	0.0058
60	-12	0.0069

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 5_836.5MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-6	0.0072
3.8	12	-0.0143
3.4	-11	0.0132

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	-9	0.0108
-20	-3	0.0036
-10	-2	0.0024
0	-8	0.0096
10	10	-0.0120
20	-8	0.0096
30	-11	0.0132
40	2	-0.0024
50	5	-0.0060
60	5	-0.0060

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 3: LTE_NB-IoT_Band 5		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 5_836.5MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	5	-0.0060
3.8	5	-0.0060
3.4	4	-0.0048

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	6	-0.0072
-20	8	-0.0096
-10	-7	0.0084
0	4	-0.0048
10	-6	0.0072
20	-4	0.0048
30	2	-0.0024
40	-11	0.0132
50	-10	0.0120
60	2	-0.0024

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 12_707.5MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-5	0.0071
3.8	4	-0.0057
3.4	-3	0.0042

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	-1	0.0014
-20	-8	0.0113
-10	-9	0.0127
0	8	-0.0113
10	2	-0.0028
20	3	-0.0042
30	-11	0.0155
40	-5	0.0071
50	1	-0.0014
60	12	-0.0170

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 4: LTE_NB-IoT_Band 12		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 12_707.5MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-12	0.0170
3.8	1	-0.0014
3.4	-11	0.0155

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	-11	0.0155
-20	-7	0.0099
-10	-8	0.0113
0	7	-0.0099
10	4	-0.0057
20	9	-0.0127
30	-4	0.0057
40	10	-0.0141
50	9	-0.0127
60	7	-0.0099

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 13_782MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-11	0.0141
3.8	-9	0.0115
3.4	-3	0.0038

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	4	-0.0051
-20	8	-0.0102
-10	-3	0.0038
0	-7	0.0090
10	7	-0.0090
20	7	-0.0090
30	4	-0.0051
40	-8	0.0102
50	9	-0.0115
60	-9	0.0115

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 5: LTE_NB-IoT_Band 13		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 13_782MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	5	-0.0064
3.8	-11	0.0141
3.4	-10	0.0128

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	-5	0.0064
-20	1	-0.0013
-10	4	-0.0051
0	5	-0.0064
10	-5	0.0064
20	-12	0.0153
30	-4	0.0051
40	9	-0.0115
50	-3	0.0038
60	9	-0.0115

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 66_1745MHz_3.75K BPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	-4	0.0023
3.8	3	-0.0017
3.4	-8	0.0046

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	11	-0.0063
-20	1	-0.0006
-10	-6	0.0034
0	4	-0.0023
10	-8	0.0046
20	-10	0.0057
30	-7	0.0040
40	-4	0.0023
50	5	-0.0029
60	-9	0.0052

Product	NB-IOT Module Supporting 2, 4, 5, 12, 13, 66		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 6: LTE_NB-IoT_Band 66		
Date of Test	2019/05/16	Test Site	SR10-H

NB-IoT Band 66_1745MHz_15k QPSK

Voltage

Voltage (VAC)	Frequency Error (Hz)	Frequency Error (ppm)
4.2	6	-0.0034
3.8	8	-0.0046
3.4	-9	0.0052

Temperature

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-30	9	-0.0052
-20	-1	0.0006
-10	-2	0.0011
0	-3	0.0017
10	-7	0.0040
20	8	-0.0046
30	-7	0.0040
40	6	-0.0034
50	11	-0.0063
60	-1	0.0006