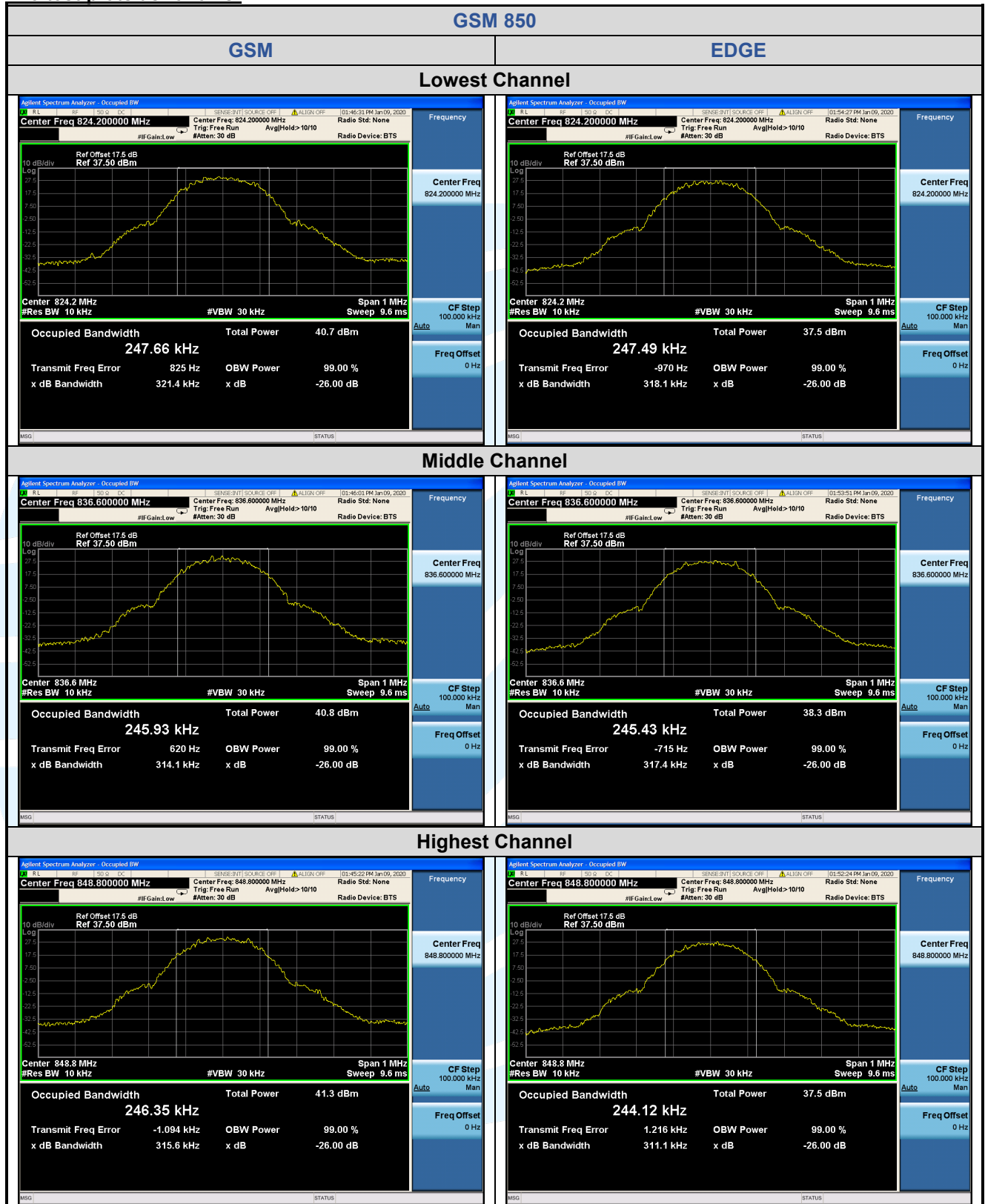


The test plots as follows:



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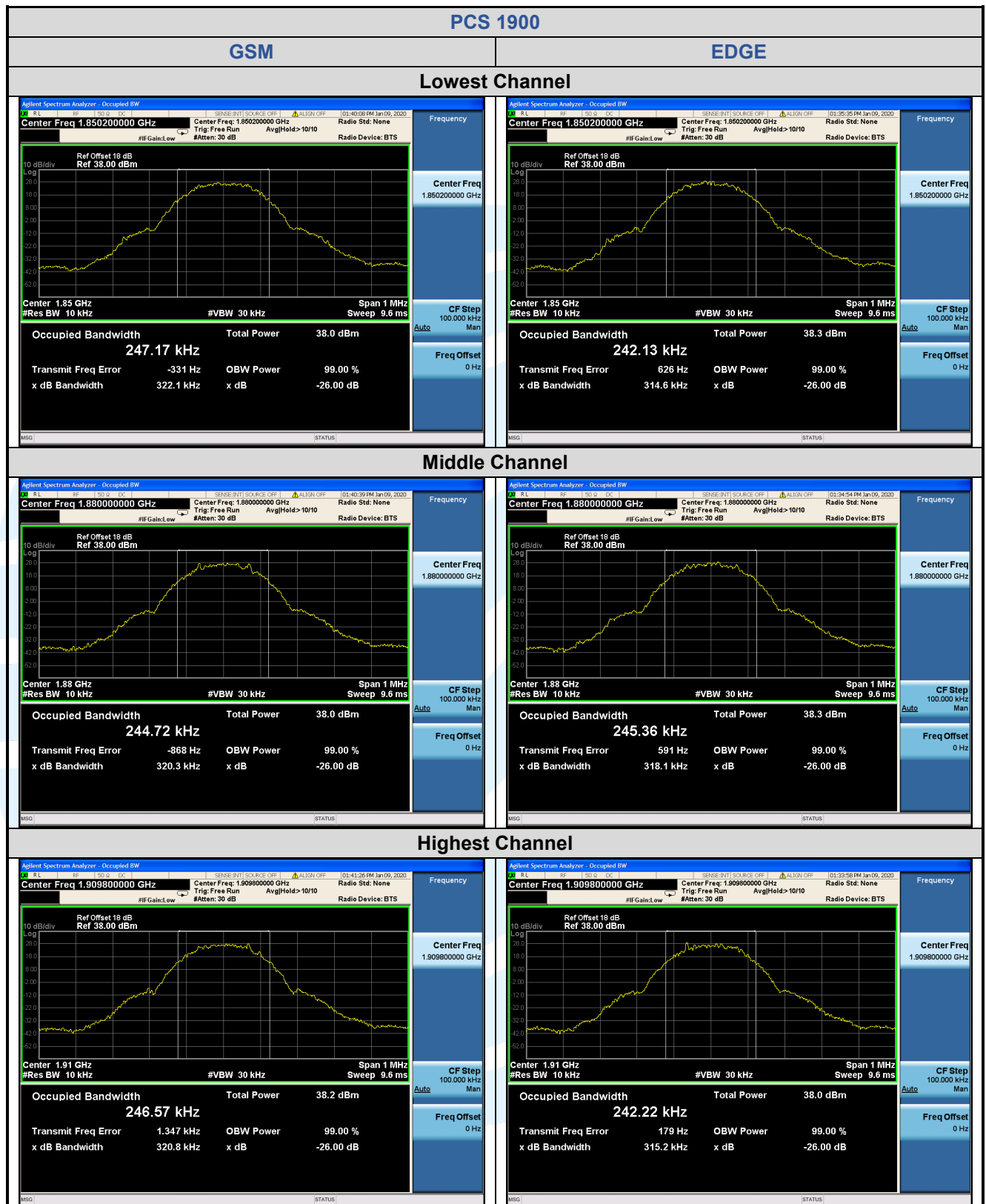
Tel: +86-755-28230888

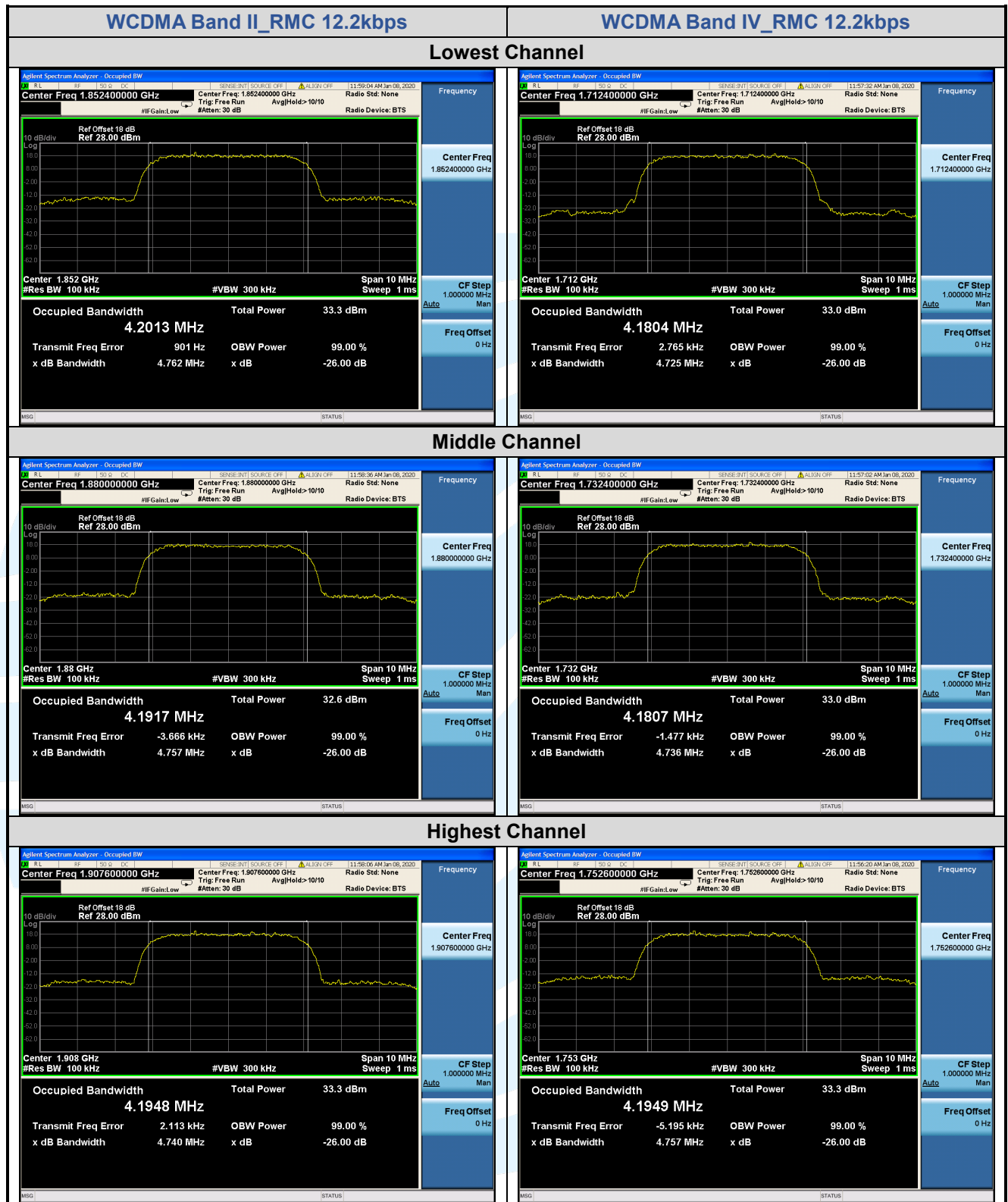
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5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: FCC 47 CFR Part 2.1051,
FCC 47 CFR Part 22.917(a),
FCC 47 CFR Part 24.238(a),
FCC 47 CFR Part 27.53(h)(1)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

The 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. The emission limit equal to -13 dBm.

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

For each band edge measurement:

- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.2.2 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

the test plots as follows.
GSM 850

GSM
EDGE

Lowest Channel

Receiver: Spectrum (x) [Max]

Ref Level: 40.00 dBm Offset: 17.50 dB Mode: Auto Sweep Input: 1 AC

Count: 50/50

Limit Check: PASS

SPURIOUS LINE ABS.

Start: 820.0 MHz Stop: 824.5 MHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	823.93694 MHz	-37.23 dBm	-24.22 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.98303 MHz	-16.74 dBm	-3.74 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.26499 MHz	26.78 dBm	-9.22 dB

Measuring... [Progress Bar] 66.01.2020 04:43:34

Date: 6.JAN.2020 04:43:34

Receiver: Spectrum (x) [Max]

Ref Level: 40.00 dBm Offset: 17.50 dB Mode: Auto Sweep Input: 1 AC

Count: 50/50

Limit Check: PASS

SPURIOUS LINE ABS.

CF 822.25 MHz

Start: 822.25 MHz Stop: 824.5 MHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
820.000 MHz	823.000 MHz	100.000 kHz	820.98751 MHz	-40.08 dBm	-27.08 dB
823.000 MHz	824.000 MHz	3.000 kHz	823.99701 MHz	-20.53 dBm	-7.53 dB
824.000 MHz	824.500 MHz	10.000 kHz	824.22235 MHz	21.83 dBm	-13.17 dB

Measuring... [Progress Bar] 66.01.2020 04:43:42

Date: 6.JAN.2020 04:43:42

Highest Channel

Receiver: Spectrum (x) [Max]

Ref Level: 40.00 dBm Offset: 17.50 dB Mode: Auto Sweep Input: 1 AC

Count: 50/50

Limit Check: PASS

SPURIOUS LINE ABS.

Start: 848.5 MHz Stop: 855.0 MHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.78945 MHz	24.34 dBm	-10.66 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.02295 MHz	-14.51 dBm	-1.51 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.03165 MHz	-38.04 dBm	-25.04 dB

Measuring... [Progress Bar] 66.01.2020 04:49:59

Date: 6.JAN.2020 04:49:59

Receiver: Spectrum (x) [Max]

Ref Level: 40.00 dBm Offset: 17.50 dB Mode: Auto Sweep Input: 1 AC

Count: 50/50

Limit Check: PASS

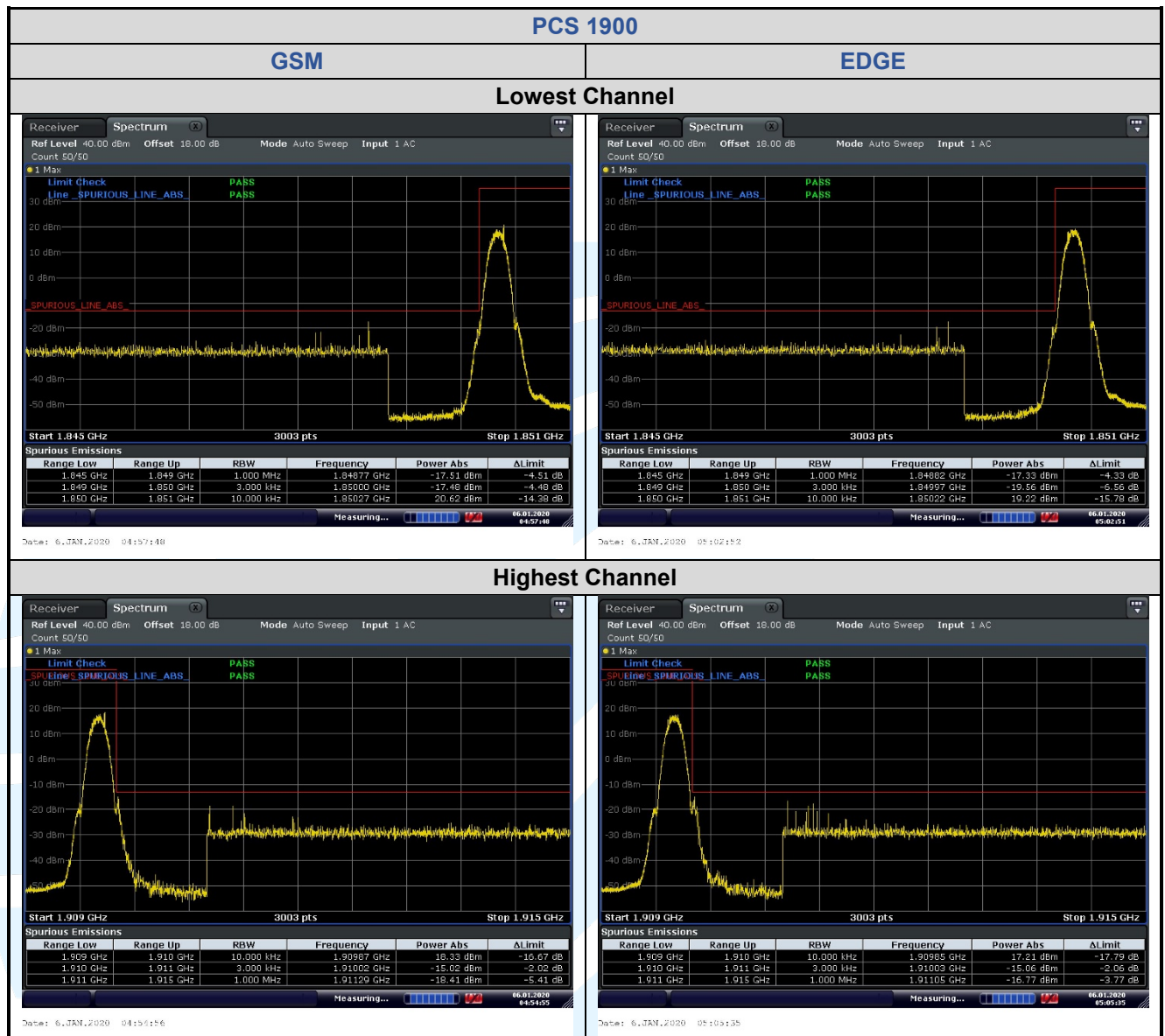
SPURIOUS LINE ABS.

Start: 848.5 MHz Stop: 855.0 MHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
848.500 MHz	849.000 MHz	10.000 kHz	848.78297 MHz	19.74 dBm	-15.26 dB
849.000 MHz	850.000 MHz	3.000 kHz	849.02894 MHz	-21.07 dBm	-8.07 dB
850.000 MHz	855.000 MHz	100.000 kHz	850.07129 MHz	-41.23 dBm	-28.23 dB

Measuring... [Progress Bar] 66.01.2020 04:57:11

Date: 6.JAN.2020 04:57:11





5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Requirement: FCC 47 CFR Part 2.1051,
FCC 47 CFR Part 22.917(a)(b),
FCC 47 CFR Part 24.238(a)(b),
FCC 47 CFR Part 27.53(h)(1)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

The 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. The emission limit equal to -13 dBm.

Test Procedure:

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 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

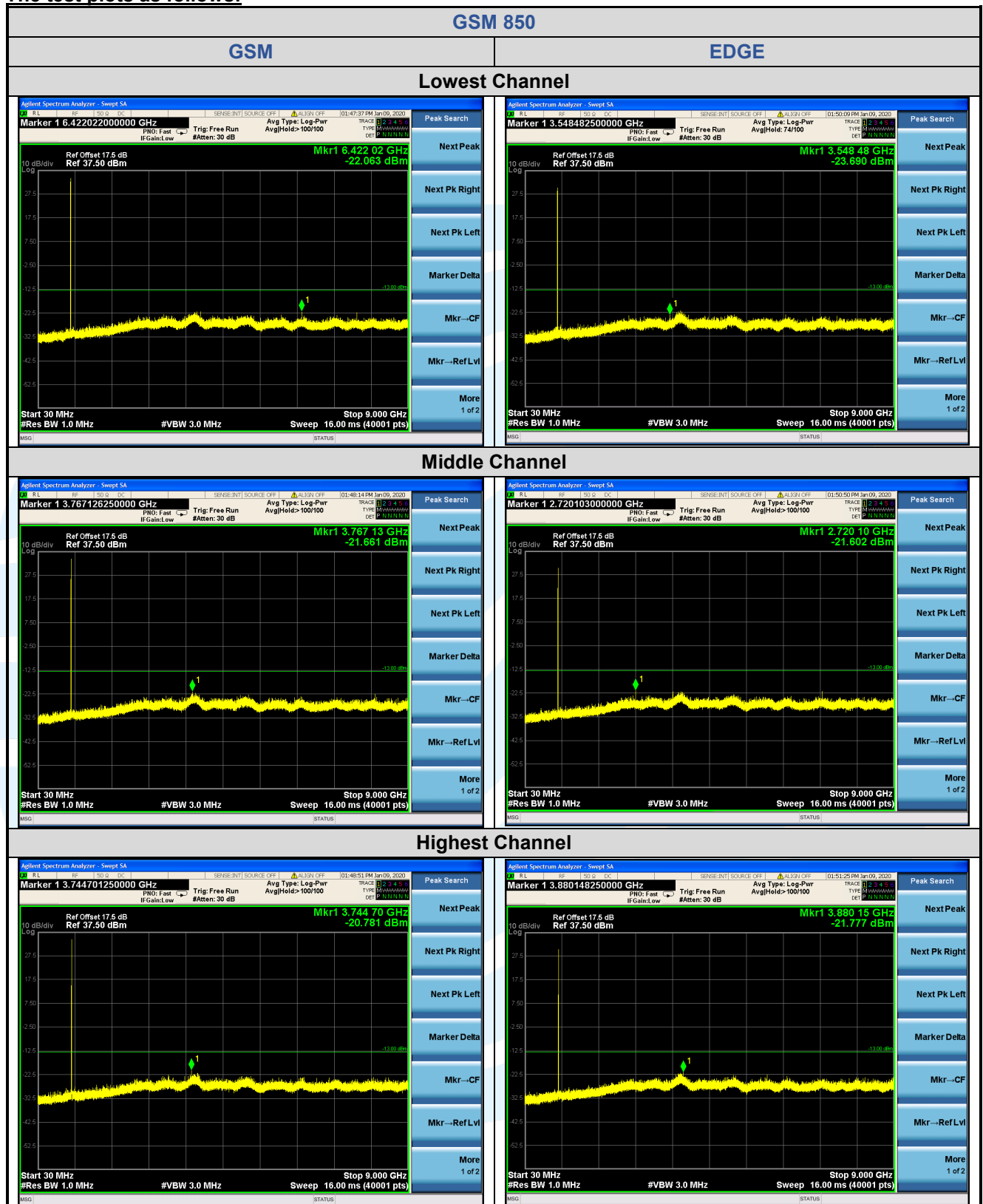
Test Setup: Refer to section 4.2.2 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

The test plots as follows:



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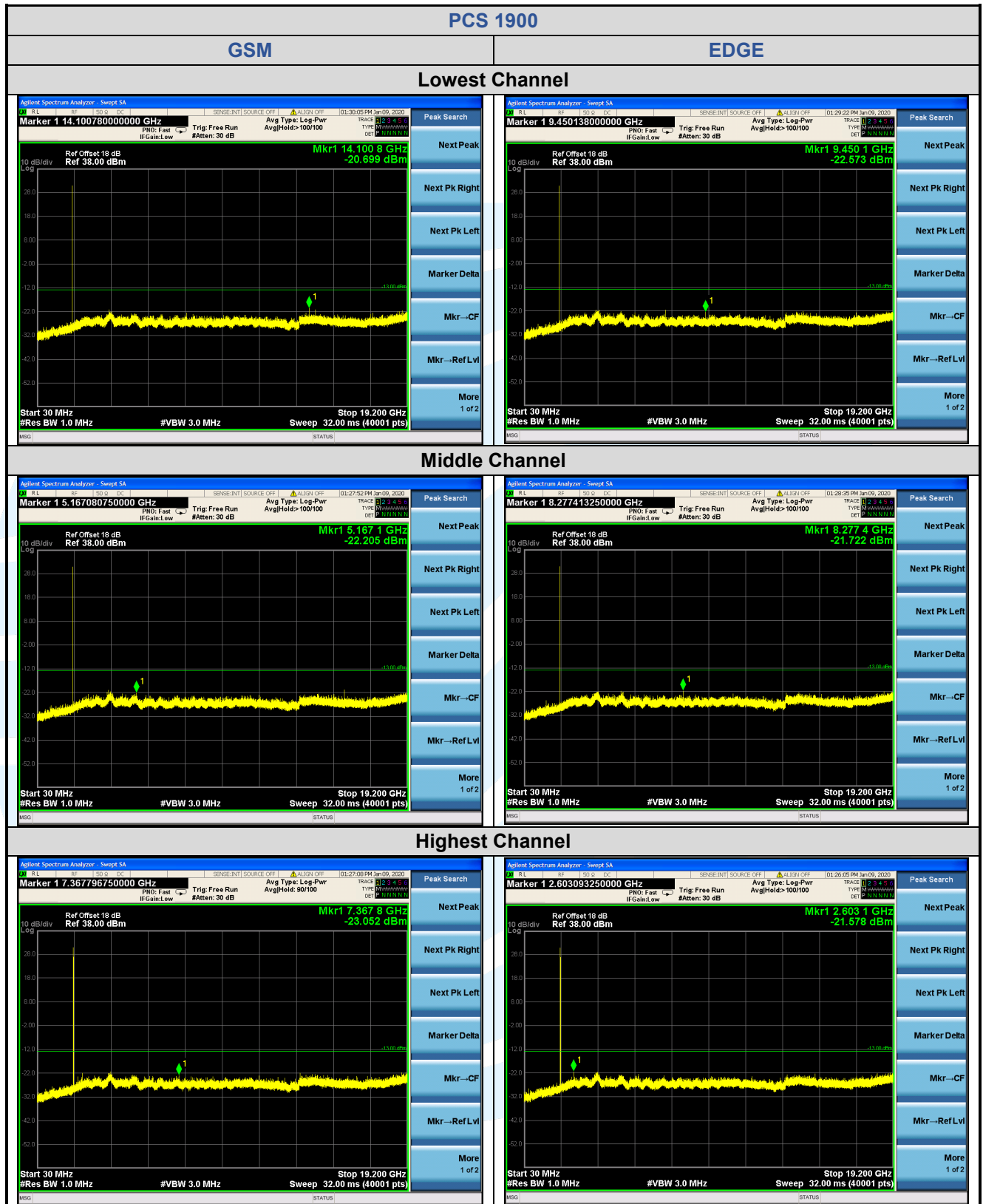
Tel: +86-755-28230888

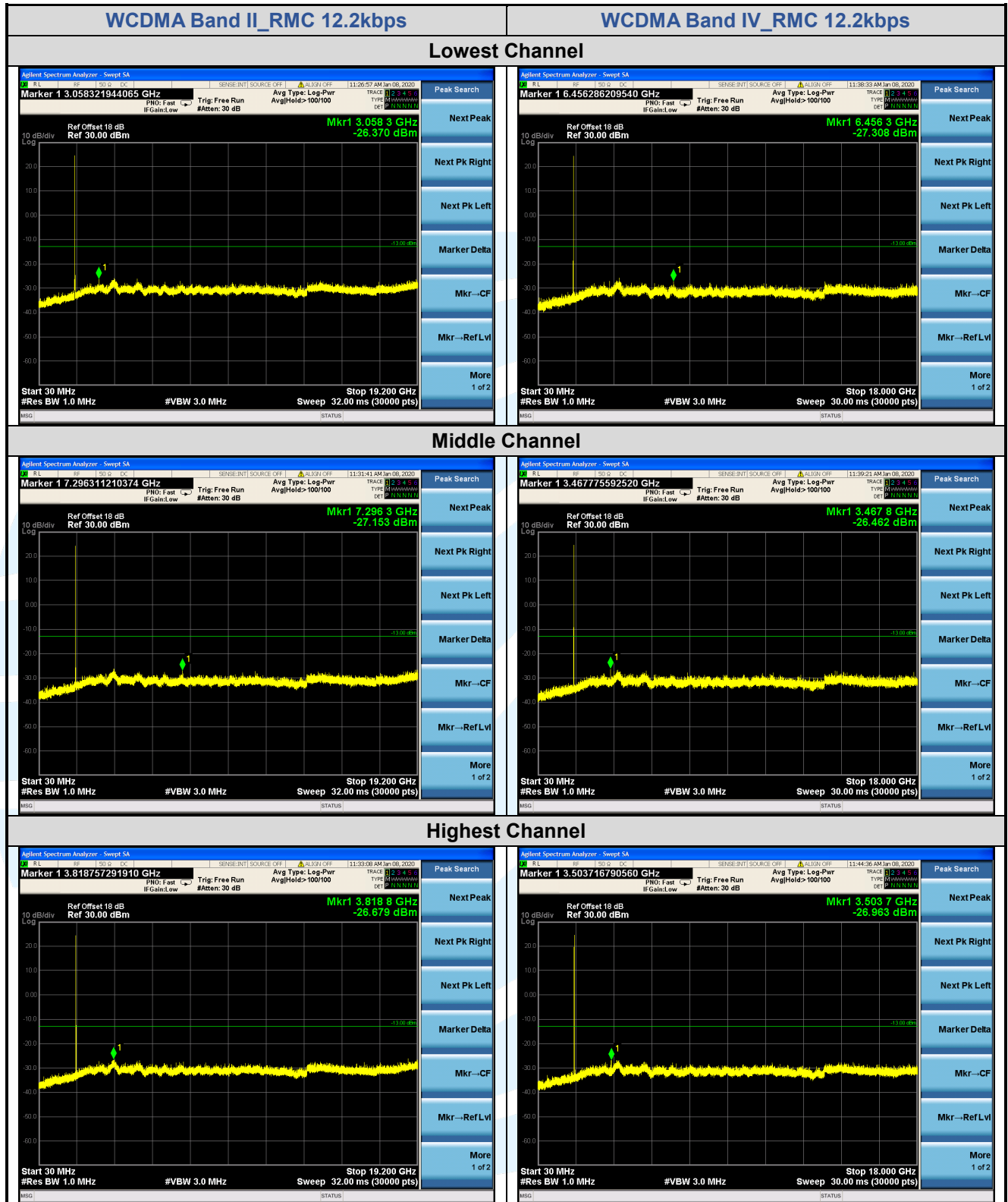
Fax: +86-755-28230886

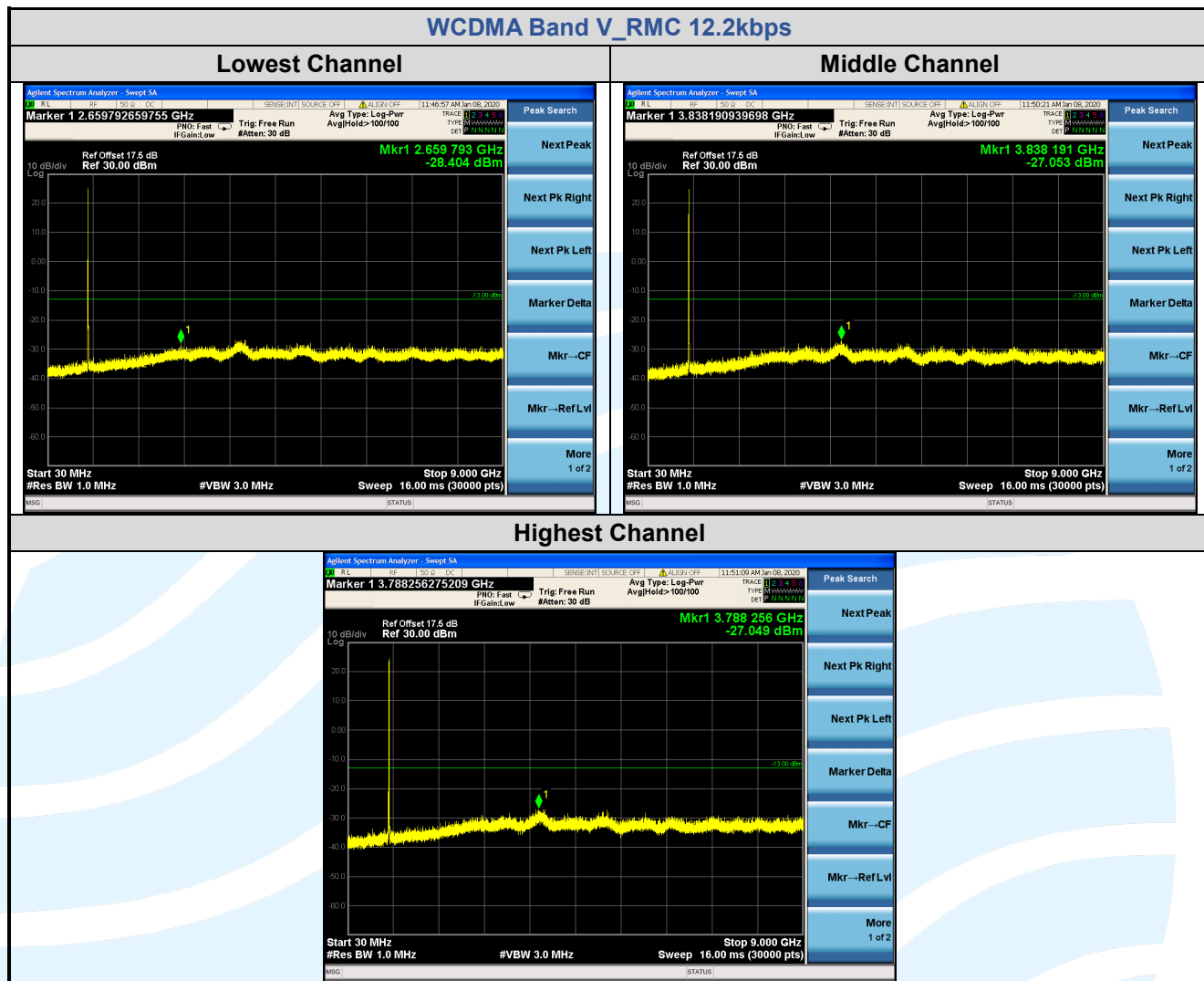
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Remark:

1) All the above radiation data, the fundamental frequency is not marked, it may exceed the limit, please ignore it.

5.8 FIELD STRENGTH OF SPURIOUS RADIATION

Test Requirement: FCC 47 CFR Part 2.1053,
FCC 47 CFR Part 22.917(a)(b),
FCC 47 CFR Part 24.238(a)(b),
FCC 47 CFR Part 27.53(h)(1)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 7

Limits:

The 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. The emission limit equal to -13 dBm.

Test Setup: Refer to section 4.2.1 for details.

Test Procedures: KDB 971168 D01v03r01 Section 7

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:

Below 1G

Below IS

GSM 850							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
GPRS_ Lowest Channel							
1	97.002	-71.16	26.45	-44.71	-13.00	-31.71	Horizontal
2	578.036	-76.70	36.71	-39.99	-13.00	-26.99	Horizontal
3	881.184	-69.01	41.27	-27.74	-13.00	-14.74	Horizontal
4	33.570	-76.79	31.68	-45.11	-13.00	-32.11	Vertical
5	220.724	-74.56	27.97	-46.59	-13.00	-33.59	Vertical
6	881.184	-66.75	41.27	-25.48	-13.00	-12.48	Vertical
GPRS_ Middle Channel							
1	106.281	-72.07	26.35	-45.72	-13.00	-32.72	Horizontal
2	219.179	-70.97	27.90	-43.07	-13.00	-30.07	Horizontal
3	881.184	-68.16	41.27	-26.89	-13.00	-13.89	Horizontal
4	39.182	-71.44	28.47	-42.97	-13.00	-29.97	Vertical
5	219.179	-73.19	27.90	-45.29	-13.00	-32.29	Vertical
6	881.184	-66.44	41.27	-25.17	-13.00	-12.17	Vertical
GPRS_ Highest Channel							
1	106.281	-73.05	26.35	-46.70	-13.00	-33.70	Horizontal
2	231.853	-71.91	28.62	-43.29	-13.00	-30.29	Horizontal
3	881.184	-68.15	41.27	-26.88	-13.00	-13.88	Horizontal
4	97.002	-74.67	26.45	-48.22	-13.00	-35.22	Vertical
5	220.724	-72.72	27.97	-44.75	-13.00	-31.75	Vertical
6	881.184	-66.13	41.27	-24.86	-13.00	-11.86	Vertical

PCS 1900							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
GPRS_ Lowest Channel							
1	97.002	-73.07	26.45	-46.62	-13.00	-33.62	Horizontal
2	231.853	-71.92	28.62	-43.30	-13.00	-30.30	Horizontal
3	578.036	-75.95	36.71	-39.24	-13.00	-26.24	Horizontal
4	57.265	-73.55	24.28	-49.27	-13.00	-36.27	Vertical
5	220.724	-73.59	27.97	-45.62	-13.00	-32.62	Vertical
6	602.929	-76.41	37.66	-38.75	-13.00	-25.75	Vertical
GPRS_ Middle Channel							
1	106.281	-73.13	26.35	-46.78	-13.00	-33.78	Horizontal
2	235.135	-71.38	28.77	-42.61	-13.00	-29.61	Horizontal
3	578.036	-76.04	36.71	-39.33	-13.00	-26.33	Horizontal
4	31.513	-78.51	33.41	-45.10	-13.00	-32.10	Vertical
5	222.281	-73.53	28.08	-45.45	-13.00	-32.45	Vertical
6	804.252	-79.22	40.27	-38.95	-13.00	-25.95	Vertical
GPRS_ Highest Channel							
1	97.002	-73.16	26.45	-46.71	-13.00	-33.71	Horizontal
2	231.853	-69.02	28.62	-40.40	-13.00	-27.40	Horizontal
3	578.036	-72.44	36.71	-35.73	-13.00	-22.73	Horizontal
4	32.184	-75.25	32.91	-42.34	-13.00	-29.34	Vertical
5	222.281	-73.81	28.08	-45.73	-13.00	-32.73	Vertical
6	602.929	-73.64	37.66	-35.98	-13.00	-22.98	Vertical

WCDMA Band II							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	32.411	-76.13	32.71	-43.42	-13.00	-30.42	Horizontal
2	231.853	-71.95	28.62	-43.33	-13.00	-30.33	Horizontal
3	578.036	-77.79	36.71	-41.08	-13.00	-28.08	Horizontal
4	43.233	-67.62	26.83	-40.79	-13.00	-27.79	Vertical
5	101.180	-73.01	26.58	-46.43	-13.00	-33.43	Vertical
6	602.929	-77.27	37.66	-39.61	-13.00	-26.61	Vertical
RMC 12.2kbps_ Middle Channel							
1	32.184	-77.50	32.91	-44.59	-13.00	-31.59	Horizontal
2	231.853	-72.35	28.62	-43.73	-13.00	-30.73	Horizontal
3	992.997	-81.59	45.49	-36.10	-13.00	-23.10	Horizontal
4	106.281	-74.33	26.35	-47.98	-13.00	-34.98	Vertical
5	223.848	-73.83	28.17	-45.66	-13.00	-32.66	Vertical
6	602.929	-77.58	37.66	-39.92	-13.00	-26.92	Vertical
RMC 12.2kbps_ Highest Channel							
1	32.184	-77.22	32.91	-44.31	-13.00	-31.31	Horizontal
2	227.016	-70.96	28.36	-42.60	-13.00	-29.60	Horizontal
3	958.714	-81.44	44.08	-37.36	-13.00	-24.36	Horizontal
4	42.931	-74.15	27.01	-47.14	-13.00	-34.14	Vertical
5	107.031	-74.33	26.42	-47.91	-13.00	-34.91	Vertical
6	578.036	-75.31	36.71	-38.60	-13.00	-25.60	Vertical

WCDMA Band IV							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	32.184	-74.17	32.91	-41.26	-13.00	-28.26	Horizontal
2	225.427	-70.76	28.27	-42.49	-13.00	-29.49	Horizontal
3	628.894	-78.23	38.05	-40.18	-13.00	-27.18	Horizontal
4	38.636	-74.18	28.73	-45.45	-13.00	-32.45	Vertical
5	222.281	-72.78	28.08	-44.70	-13.00	-31.70	Vertical
6	578.036	-75.86	36.71	-39.15	-13.00	-26.15	Vertical
RMC 12.2kbps_ Middle Channel							
1	42.931	-70.90	27.01	-43.89	-13.00	-30.89	Horizontal
2	225.427	-70.62	28.27	-42.35	-13.00	-29.35	Horizontal
3	1000.000	-81.71	45.71	-36.00	-13.00	-23.00	Horizontal
4	42.931	-71.19	27.01	-44.18	-13.00	-31.18	Vertical
5	220.724	-73.78	27.97	-45.81	-13.00	-32.81	Vertical
6	578.036	-74.33	36.71	-37.62	-13.00	-24.62	Vertical
RMC 12.2kbps_ Highest Channel							
1	106.281	-72.04	26.35	-45.69	-13.00	-32.69	Horizontal
2	225.427	-70.86	28.27	-42.59	-13.00	-29.59	Horizontal
3	578.036	-76.93	36.71	-40.22	-13.00	-27.22	Horizontal
4	32.184	-76.44	32.91	-43.53	-13.00	-30.53	Vertical
5	222.281	-72.70	28.08	-44.62	-13.00	-31.62	Vertical
6	578.036	-73.36	36.71	-36.65	-13.00	-23.65	Vertical

WCDMA Band V							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	106.281	-72.66	26.35	-46.31	-13.00	-33.31	Horizontal
2	225.427	-70.51	28.27	-42.24	-13.00	-29.24	Horizontal
3	868.886	-74.70	41.04	-33.66	-13.00	-20.66	Horizontal
4	32.184	-76.25	32.91	-43.34	-13.00	-30.34	Vertical
5	106.281	-72.81	26.35	-46.46	-13.00	-33.46	Vertical
6	602.929	-77.30	37.66	-39.64	-13.00	-26.64	Vertical
RMC 12.2kbps_ Middle Channel							
1	97.002	-72.00	26.45	-45.55	-13.00	-32.55	Horizontal
2	227.016	-72.01	28.36	-43.65	-13.00	-30.65	Horizontal
3	578.036	-76.60	36.71	-39.89	-13.00	-26.89	Horizontal
4	32.184	-74.30	32.91	-41.39	-13.00	-28.39	Vertical
5	106.281	-72.76	26.35	-46.41	-13.00	-33.41	Vertical
6	225.427	-74.31	28.27	-46.04	-13.00	-33.04	Vertical
RMC 12.2kbps_ Highest Channel							
1	42.931	-71.20	27.01	-44.19	-13.00	-31.19	Horizontal
2	97.002	-71.00	26.45	-44.55	-13.00	-31.55	Horizontal
3	225.427	-71.44	28.27	-43.17	-13.00	-30.17	Horizontal
4	32.184	-75.28	32.91	-42.37	-13.00	-29.37	Vertical
5	220.724	-74.25	27.97	-46.28	-13.00	-33.28	Vertical
6	602.929	-76.88	37.66	-39.22	-13.00	-26.22	Vertical

Above 1G

GSM 850							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
GPRS_ Lowest Channel							
1	1648.400	-77.90	22.39	-55.51	-13.00	-42.51	Horizontal
2	2472.600	-74.01	29.16	-44.85	-13.00	-31.85	Horizontal
3	1648.400	-76.46	24.03	-52.43	-13.00	-39.43	Vertical
4	2472.600	-76.29	31.49	-44.80	-13.00	-31.80	Vertical
GPRS_ Middle Channel							
1	1673.200	-76.85	22.59	-54.26	-13.00	-41.26	Horizontal
2	2509.800	-74.55	29.17	-45.38	-13.00	-32.38	Horizontal
3	1673.200	-77.99	24.31	-53.68	-13.00	-40.68	Vertical
4	2509.800	-77.60	31.46	-46.14	-13.00	-33.14	Vertical
GPRS_ Highest Channel							
1	1697.600	-78.45	22.78	-55.67	-13.00	-42.67	Horizontal
2	2546.400	-71.45	29.22	-42.23	-13.00	-29.23	Horizontal
3	1697.600	-76.35	24.59	-51.76	-13.00	-38.76	Vertical
4	2546.400	-73.11	31.45	-41.66	-13.00	-28.66	Vertical

PCS 1900							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
GPRS_ Lowest Channel							
1	3700.400	-76.96	33.77	-43.19	-13.00	-30.19	Horizontal
2	5550.600	-71.27	36.02	-35.25	-13.00	-22.25	Horizontal
3	3700.400	-76.17	35.13	-41.04	-13.00	-28.04	Vertical
4	5550.600	-70.62	36.91	-33.71	-13.00	-20.71	Vertical
GPRS_ Middle Channel							
1	3760.000	-75.93	33.87	-42.06	-13.00	-29.06	Horizontal
2	5640.000	-70.66	36.10	-34.56	-13.00	-21.56	Horizontal
3	3760.000	-75.69	35.28	-40.41	-13.00	-27.41	Vertical
4	5640.000	-70.99	36.97	-34.02	-13.00	-21.02	Vertical
GPRS_ Highest Channel							
1	3819.600	-75.52	33.98	-41.54	-13.00	-28.54	Horizontal
2	5729.400	-70.36	36.37	-33.99	-13.00	-20.99	Horizontal
3	3819.600	-75.98	35.44	-40.54	-13.00	-27.54	Vertical
4	5729.400	-70.16	37.23	-32.93	-13.00	-19.93	Vertical

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WCDMA Band II							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	3704.800	-61.77	13.78	-47.99	-13.00	-34.99	Horizontal
2	5557.500	-52.73	16.01	-36.72	-13.00	-23.72	Horizontal
3	3704.800	-62.71	15.14	-47.57	-13.00	-34.57	Vertical
4	5557.500	-55.55	16.90	-38.65	-13.00	-25.65	Vertical
RMC 12.2kbps_ Middle Channel							
1	3760.000	-62.30	13.87	-48.43	-13.00	-35.43	Horizontal
2	5640.000	-55.38	16.10	-39.28	-13.00	-26.28	Horizontal
3	3760.000	-63.78	15.28	-48.50	-13.00	-35.50	Vertical
4	5640.000	-56.80	16.97	-39.83	-13.00	-26.83	Vertical
RMC 12.2kbps_ Highest Channel							
1	3815.200	-64.02	13.97	-50.05	-13.00	-37.05	Horizontal
2	5722.800	-56.52	16.35	-40.17	-13.00	-27.17	Horizontal
3	3815.200	-62.09	15.43	-46.66	-13.00	-33.66	Vertical
4	5722.800	-54.66	17.21	-37.45	-13.00	-24.45	Vertical

WCDMA Band IV							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	3424.800	-48.80	12.45	-36.35	-13.00	-23.35	Horizontal
2	5137.200	-43.71	16.11	-27.60	-13.00	-14.60	Horizontal
3	3424.800	-50.89	13.70	-37.19	-13.00	-24.19	Vertical
4	5137.200	-45.47	17.08	-28.39	-13.00	-15.39	Vertical
RMC 12.2kbps_ Middle Channel							
1	3464.800	-49.94	12.74	-37.20	-13.00	-24.20	Horizontal
2	5197.200	-51.83	16.21	-35.62	-13.00	-22.62	Horizontal
3	3464.800	-51.30	13.97	-37.33	-13.00	-24.33	Vertical
4	5197.200	-53.89	17.17	-36.72	-13.00	-23.72	Vertical
RMC 12.2kbps_ Highest Channel							
1	3505.200	-45.15	13.03	-32.12	-13.00	-19.12	Horizontal
2	5257.800	-43.77	16.20	-27.57	-13.00	-14.57	Horizontal
3	3505.200	-56.53	14.24	-42.29	-13.00	-29.29	Vertical
4	5257.800	-46.00	17.15	-28.85	-13.00	-15.85	Vertical

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WCDMA Band V							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
RMC 12.2kbps_ Lowest Channel							
1	1652.800	-47.43	2.43	-45.00	-13.00	-32.00	Horizontal
2	2479.200	-49.49	9.16	-40.33	-13.00	-27.33	Horizontal
3	1652.800	-55.34	4.08	-51.26	-13.00	-38.26	Vertical
4	2479.200	-55.72	11.48	-44.24	-13.00	-31.24	Vertical
RMC 12.2kbps_ Middle Channel							
1	1672.800	-48.70	2.59	-46.11	-13.00	-33.11	Horizontal
2	2509.200	-43.96	9.17	-34.79	-13.00	-21.79	Horizontal
3	1672.800	-61.11	4.31	-56.80	-13.00	-43.80	Vertical
4	2509.200	-52.11	11.46	-40.65	-13.00	-27.65	Vertical
RMC 12.2kbps_ Highest Channel							
1	1693.200	-50.12	2.75	-47.37	-13.00	-34.37	Horizontal
2	2539.800	-41.66	9.22	-32.44	-13.00	-19.44	Horizontal
3	1693.200	-59.91	4.54	-55.37	-13.00	-42.37	Vertical
4	2539.800	-53.85	11.45	-42.40	-13.00	-29.40	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

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5.9 FREQUENCY STABILITY

Test Requirement: FCC 47 CFR Part 2.1055 &
FCC 47 CFR Part 22.355 &
FCC 47 CFR Part 24.235 &
FCC 47 CFR Part 27.54

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limits:

FCC 47 CFR Part 22.355,

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Setup: Refer to section 4.2.2 for details.

Test Procedures:

1) Use CMW 500 with Frequency Error measurement capability.

a) Temp. = -30° to $+50^{\circ}\text{C}$

b) Voltage = low voltage, 3.5 Vdc, Normal, 3.85 Vdc and High voltage, 4.4 Vdc.

2) Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize.

After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

3) Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

Equipment Used: Refer to section 3 for details.

Test Result: Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature ($^{\circ}\text{C}$)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850							
GPRS	190 / 836.6	VL	TN	39	0.0466	± 2.5	Pass
		VN		42	0.0502	± 2.5	Pass
		VH		35	0.0418	± 2.5	Pass
		VN	50	40	0.0478	± 2.5	Pass
			40	44	0.0526	± 2.5	Pass
			30	41	0.0490	± 2.5	Pass
			20	41	0.0490	± 2.5	Pass
			10	39	0.0466	± 2.5	Pass
			0	43	0.0514	± 2.5	Pass
			-10	40	0.0478	± 2.5	Pass
			-20	34	0.0406	± 2.5	Pass
			-30	40	0.0478	± 2.5	Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Pass/ Fail
GSM 850							
EDGE	190 / 836.6	VL	TN	38	0.0454	± 2.5	Pass
		VN		41	0.0490	± 2.5	Pass
		VH		38	0.0454	± 2.5	Pass
		VN	50	40	0.0478	± 2.5	Pass
			40	38	0.0454	± 2.5	Pass
			30	42	0.0502	± 2.5	Pass
			20	38	0.0454	± 2.5	Pass
			10	39	0.0466	± 2.5	Pass
			0	33	0.0394	± 2.5	Pass
			-10	37	0.0442	± 2.5	Pass
			-20	36	0.0430	± 2.5	Pass
			-30	33	0.0394	± 2.5	Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
PCS 1900							
GPRS	661 / 1880.0	VL	TN	-28	-0.0149	N/A	Pass
		VN		-28	-0.0149		Pass
		VH		-25	-0.0133		Pass
		VN	50	-31	-0.0165		Pass
			40	-29	-0.0154		Pass
			30	-29	-0.0154		Pass
			20	-23	-0.0122		Pass
			10	-25	-0.0133		Pass
			0	-23	-0.0122		Pass
			-10	-28	-0.0149		Pass
			-20	-31	-0.0165		Pass
			-30	-27	-0.0144		Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Pass/ Fail
PCS 1900							
EDGE	661 / 1880.0	VL	TN	-28	-0.0149	Note 1	Pass
		VN		-31	-0.0165		Pass
		VH		-28	-0.0149		Pass
		VN	50	-30	-0.0160		Pass
			40	-27	-0.0144		Pass
			30	-27	-0.0144		Pass
			20	-29	-0.0154		Pass
			10	-31	-0.0165		Pass
			0	-31	-0.0165		Pass
			-10	-33	-0.0176		Pass
			-20	-29	-0.0154		Pass
			-30	-29	-0.0154		Pass

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Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
WCDMA Band II							
RMC 12.2kbps	9400 / 1880.0	VL	TN	-33	-0.0176	N/A	Pass
		VN		-26	-0.0138		Pass
		VH		-32	-0.0170		Pass
		VN	50	-34	-0.0181		Pass
			40	-28	-0.0149		Pass
			30	-33	-0.0176		Pass
			20	-31	-0.0165		Pass
			10	-34	-0.0181		Pass
			0	-36	-0.0191		Pass
			-10	-29	-0.0154		Pass
			-20	-30	-0.0160		Pass
			-30	-34	-0.0181		Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
WCDMA Band IV							
RMC 12.2kbps	1412 / 1732.4	VL	TN	-28	-0.0162	N/A	Pass
		VN		-21	-0.0121		Pass
		VH		-31	-0.0179		Pass
		VN	50	-28	-0.0162		Pass
			40	-23	-0.0133		Pass
			30	-27	-0.0156		Pass
			20	-33	-0.0190		Pass
			10	-28	-0.0162		Pass
			0	-28	-0.0162		Pass
			-10	-25	-0.0144		Pass
			-20	-29	-0.0167		Pass
			-30	-27	-0.0156		Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
WCDMA Band V							
RMC 12.2kbps	4182 / 836.4	VL	TN	31	0.0371	± 2.5	Pass
		VN		33	0.0395	± 2.5	Pass
		VH		29	0.0347	± 2.5	Pass
		VN	50	31	0.0371	± 2.5	Pass
			40	33	0.0395	± 2.5	Pass
			30	34	0.0407	± 2.5	Pass
			20	33	0.0395	± 2.5	Pass
			10	31	0.0371	± 2.5	Pass
			0	35	0.0418	± 2.5	Pass
			-10	31	0.0371	± 2.5	Pass
			-20	33	0.0395	± 2.5	Pass
			-30	34	0.0407	± 2.5	Pass

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***

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