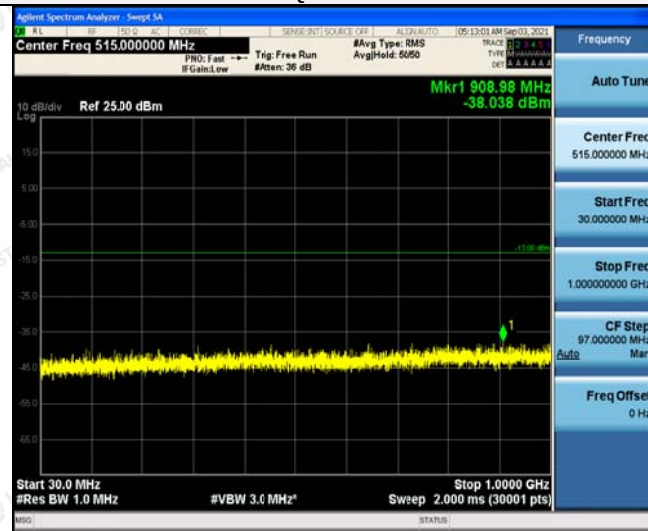


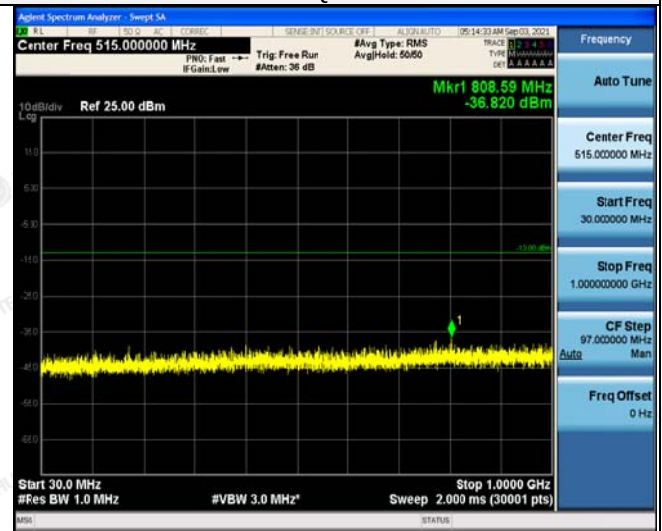


LTE FDD Band 66-3MHz Channel Bandwidth Low Channel

QPSK



16QAM



30MHz~1GHz



30MHz~1GHz



1GHz~5GHz



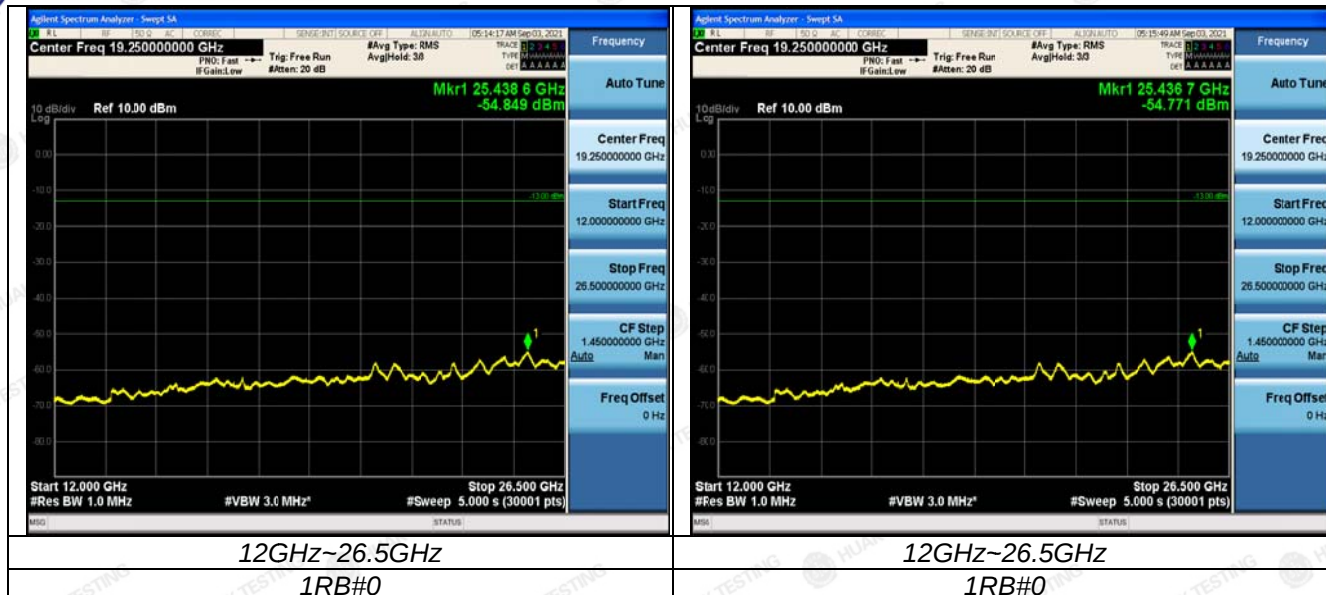
1GHz~5GHz



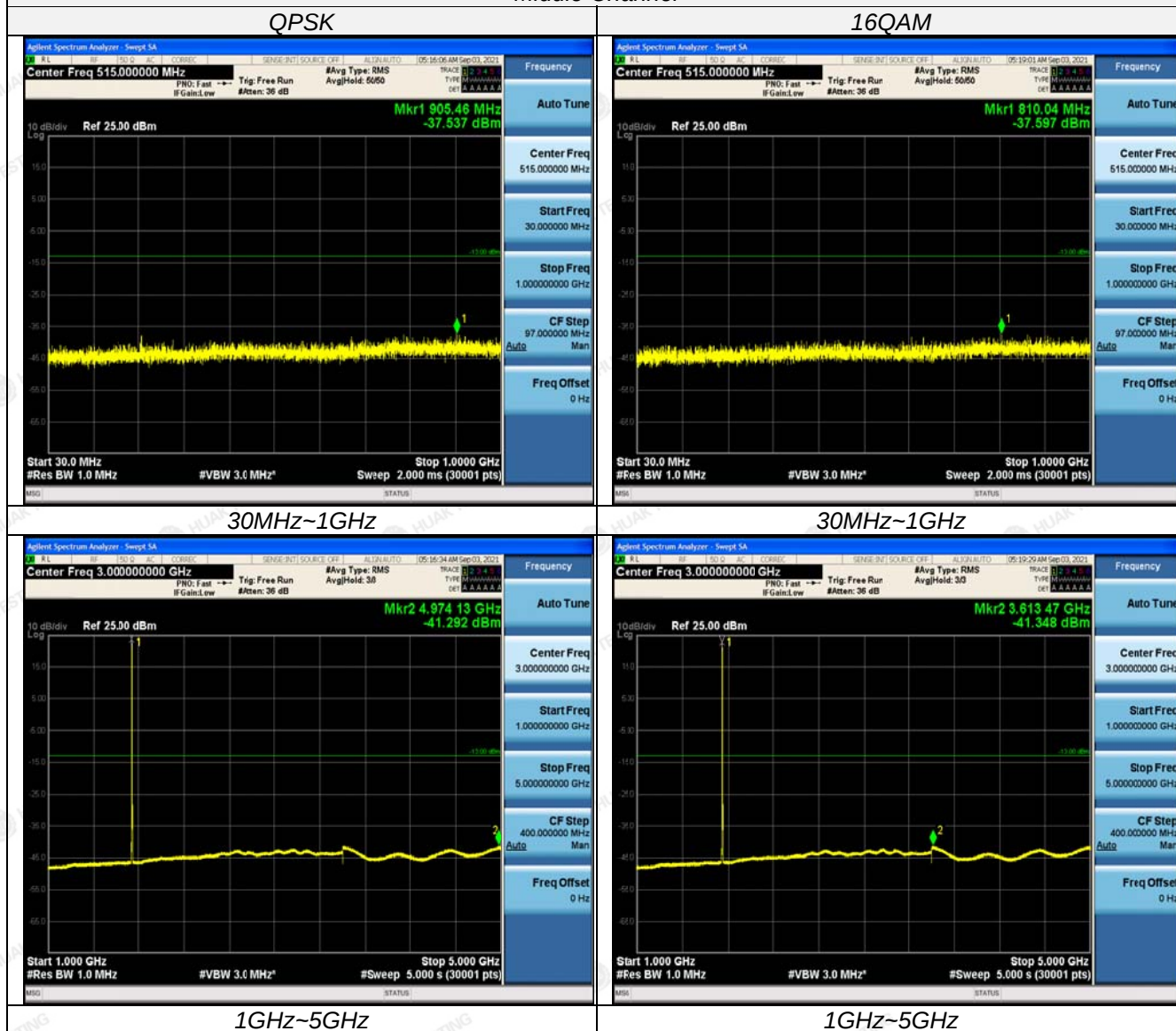
5GHz~12GHz

5GHz~12GHz

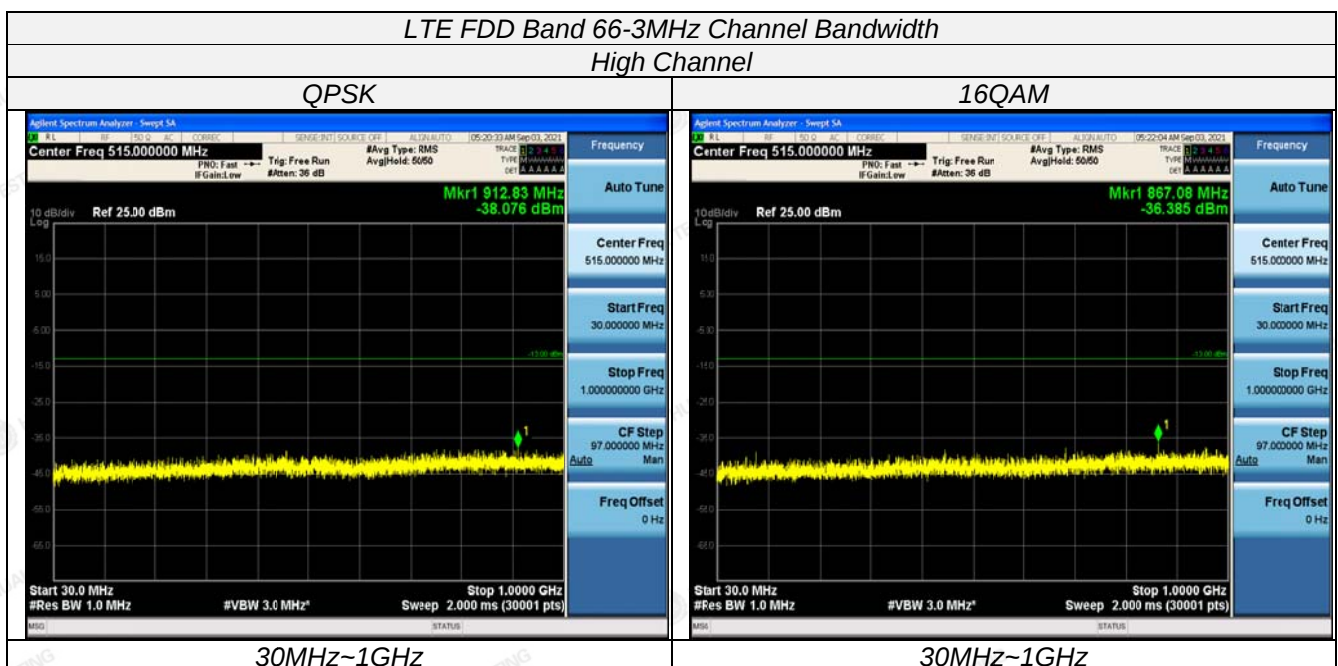
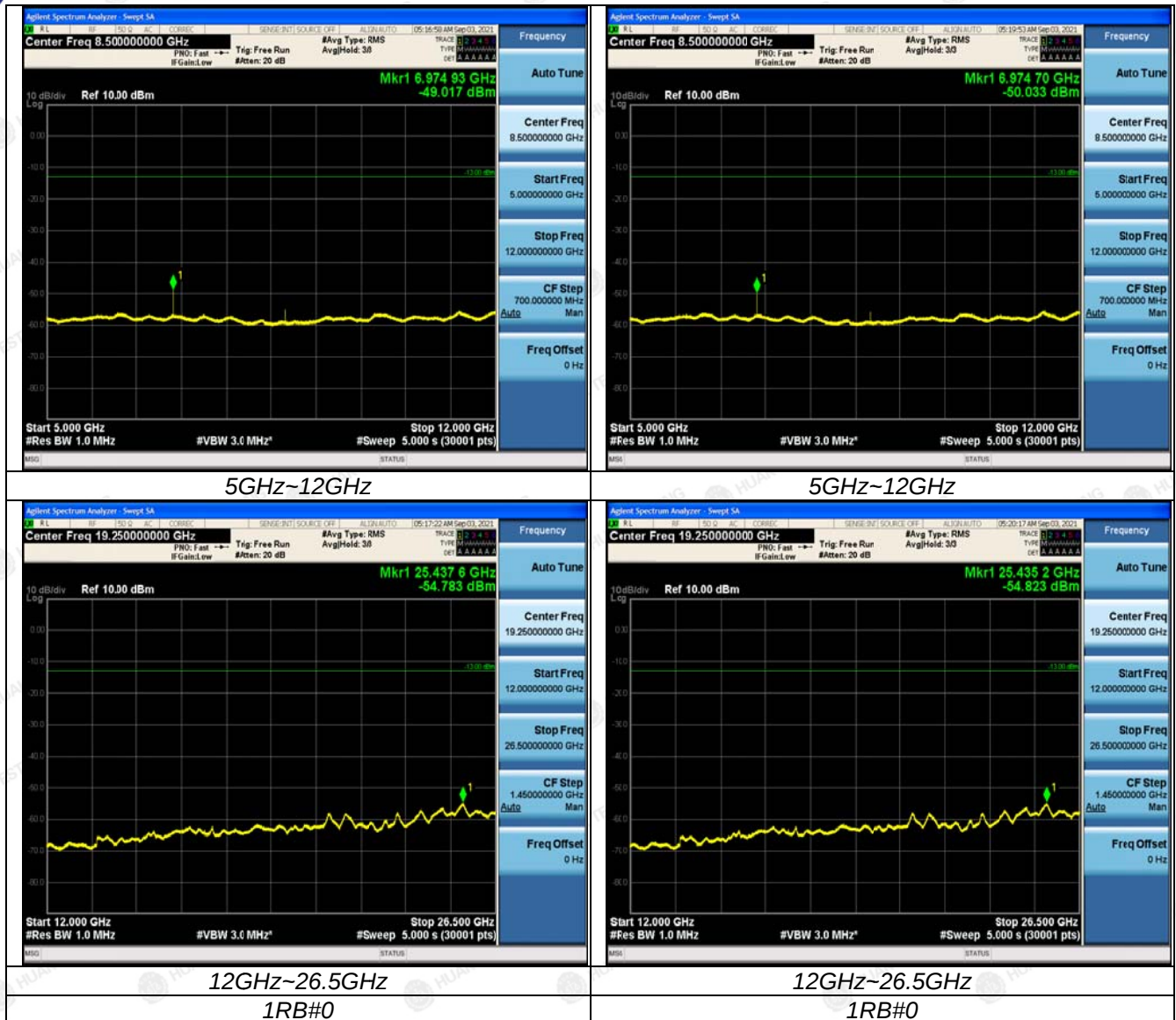
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LTE FDD Band 66-3MHz Channel Bandwidth
Middle Channel



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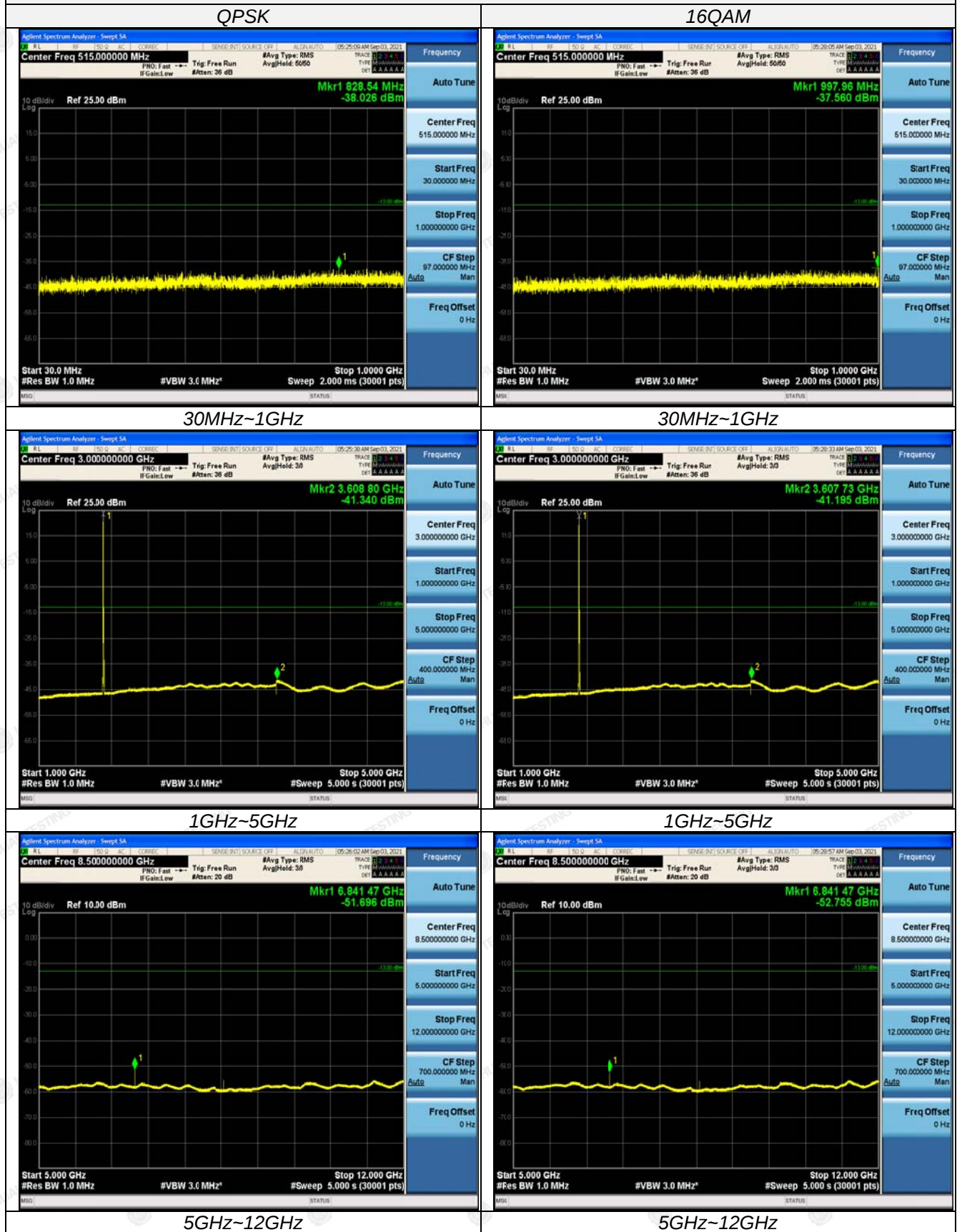
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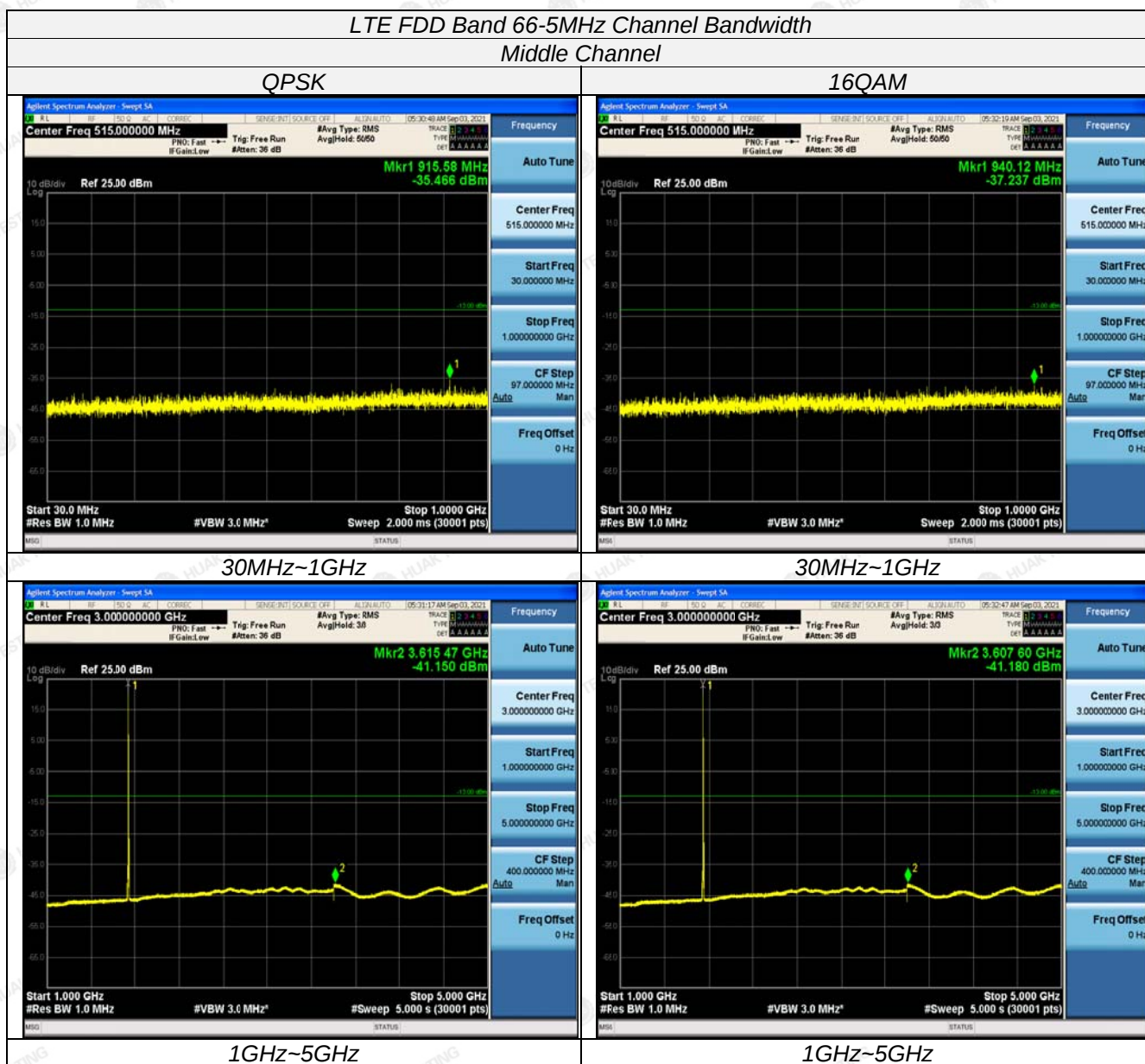
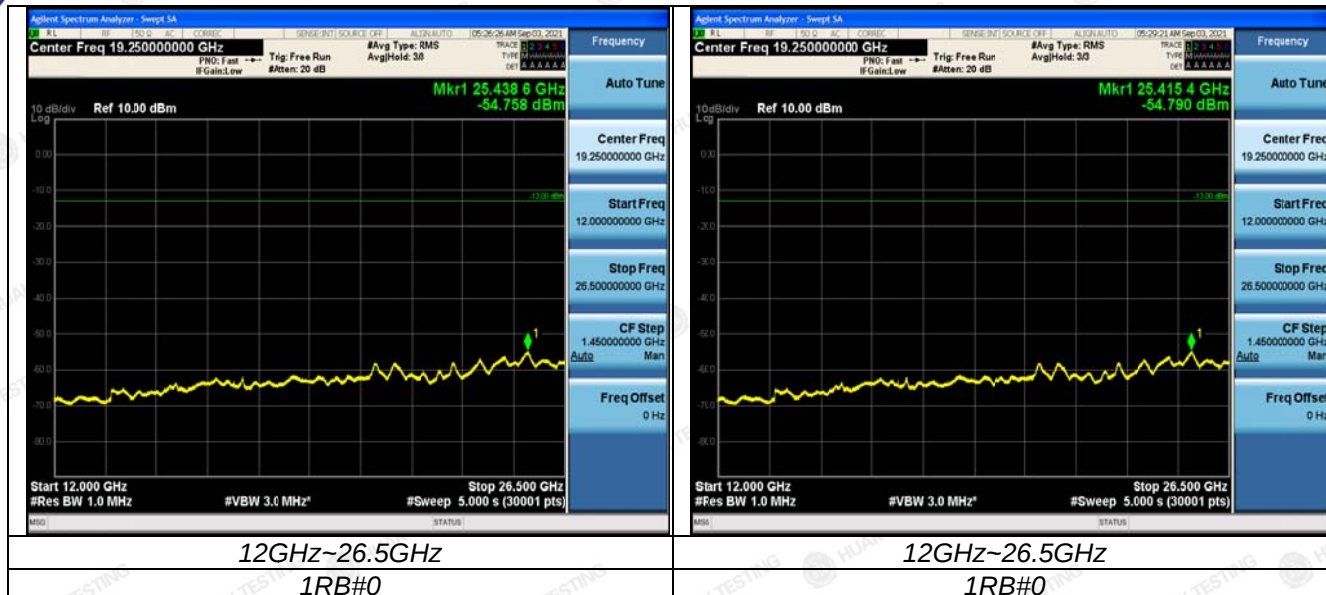
1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



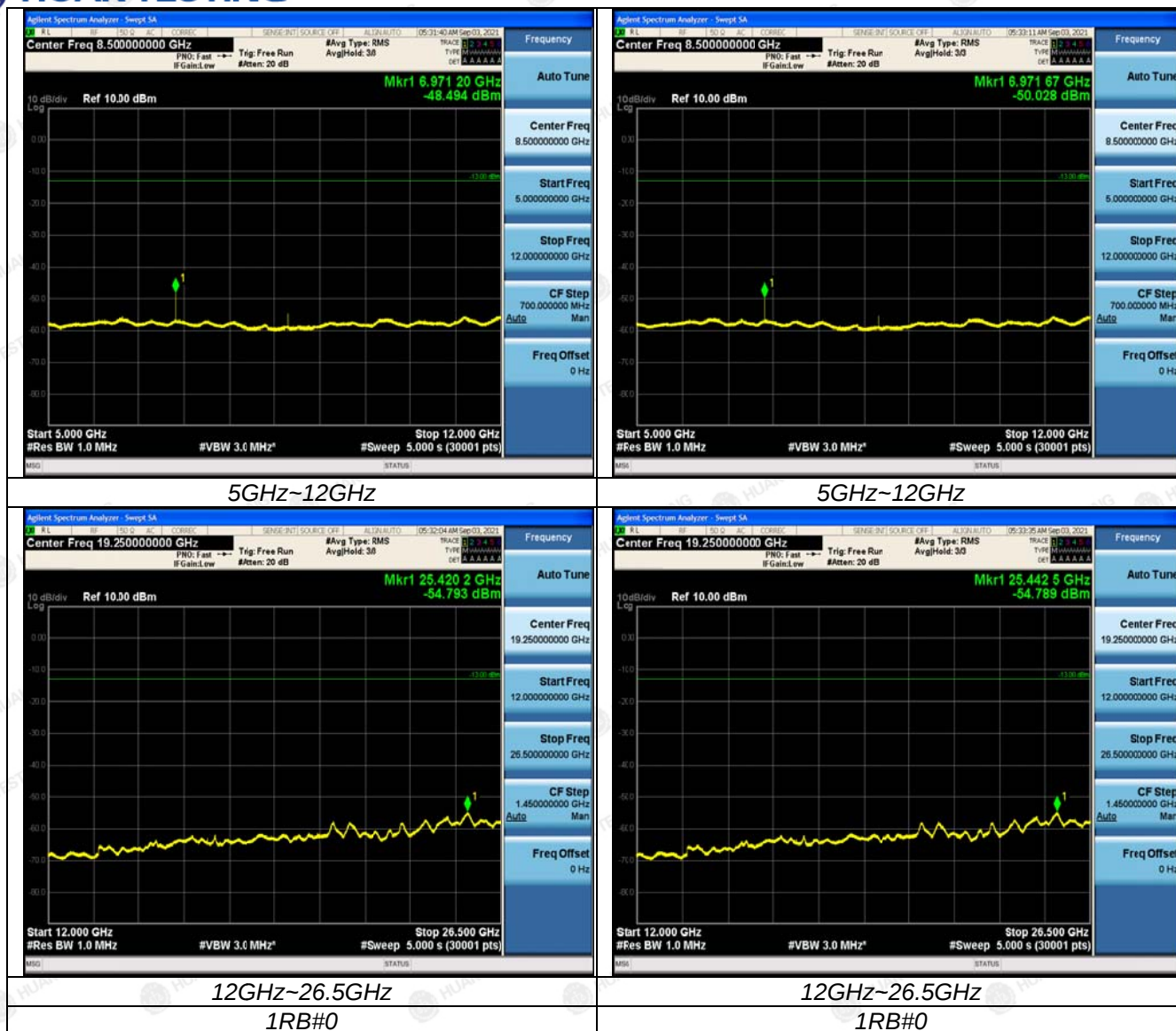
LTE FDD Band 66-5MHz Channel Bandwidth Low Channel



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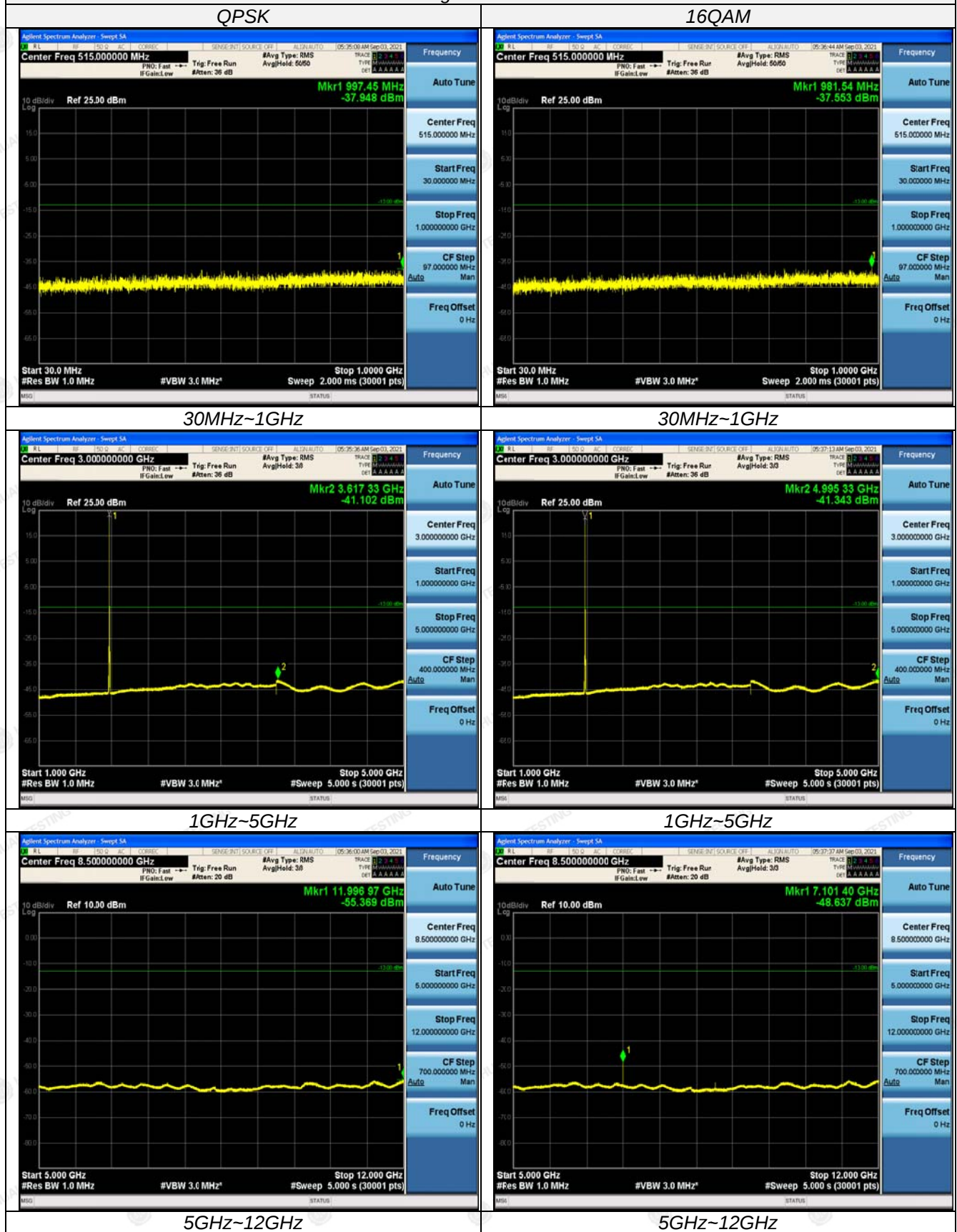
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LTE FDD Band 66-5MHz Channel Bandwidth High Channel

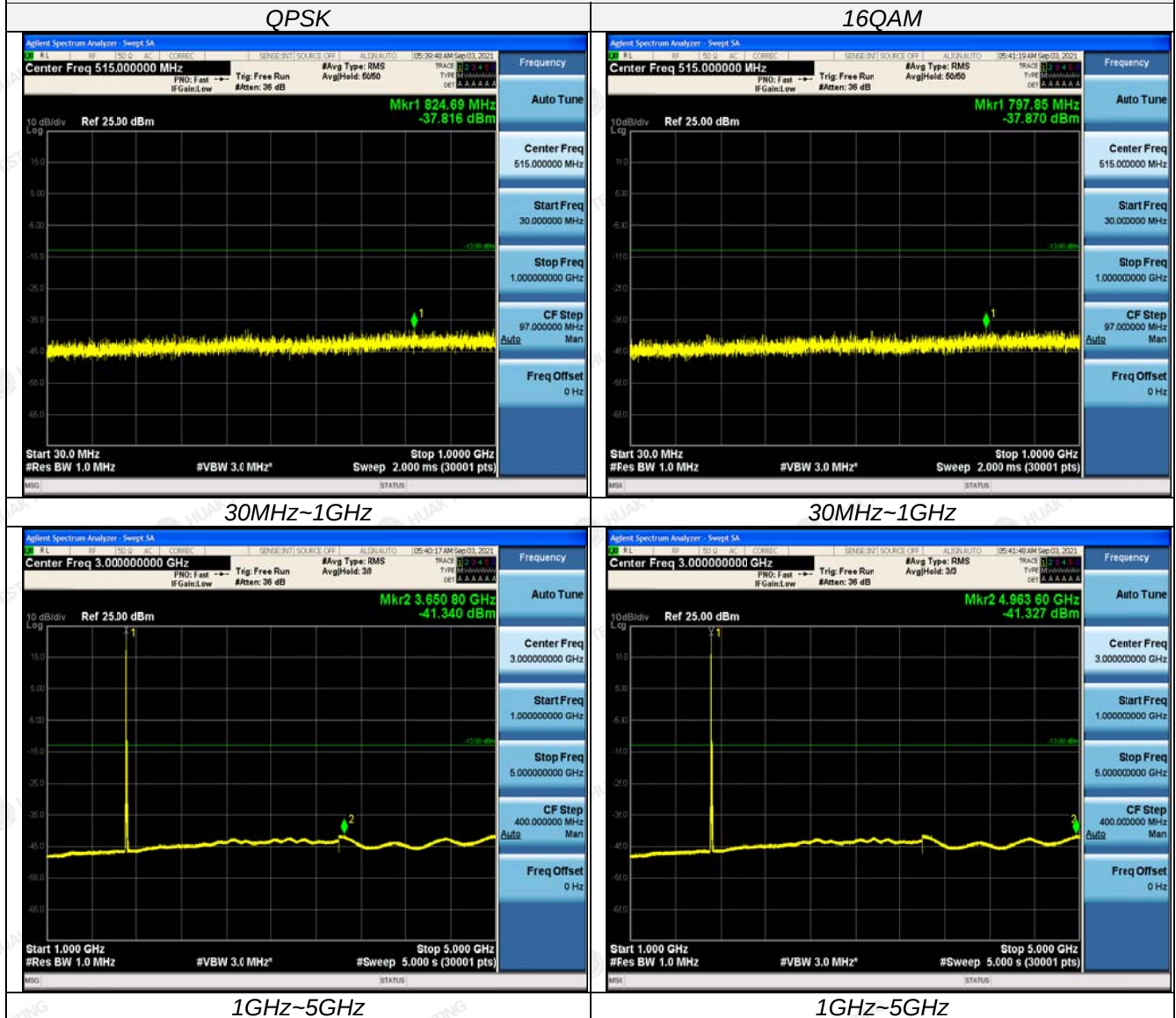


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LTE FDD Band 66-10MHz Channel Bandwidth

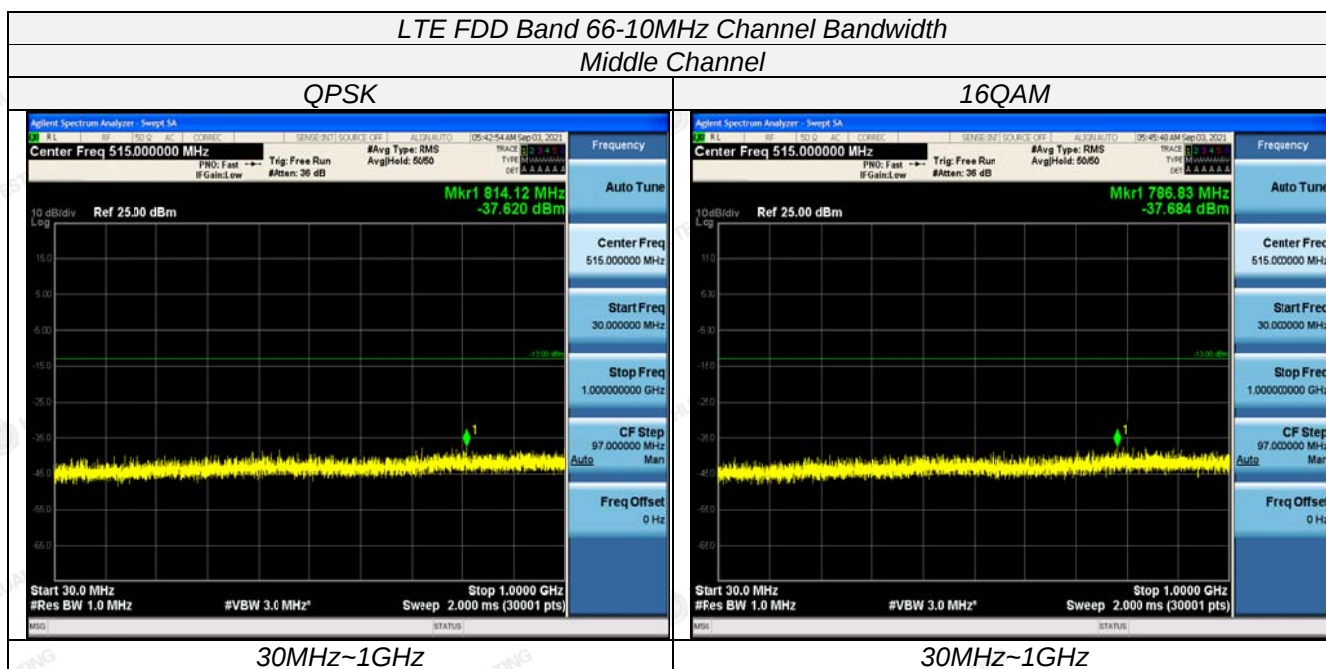
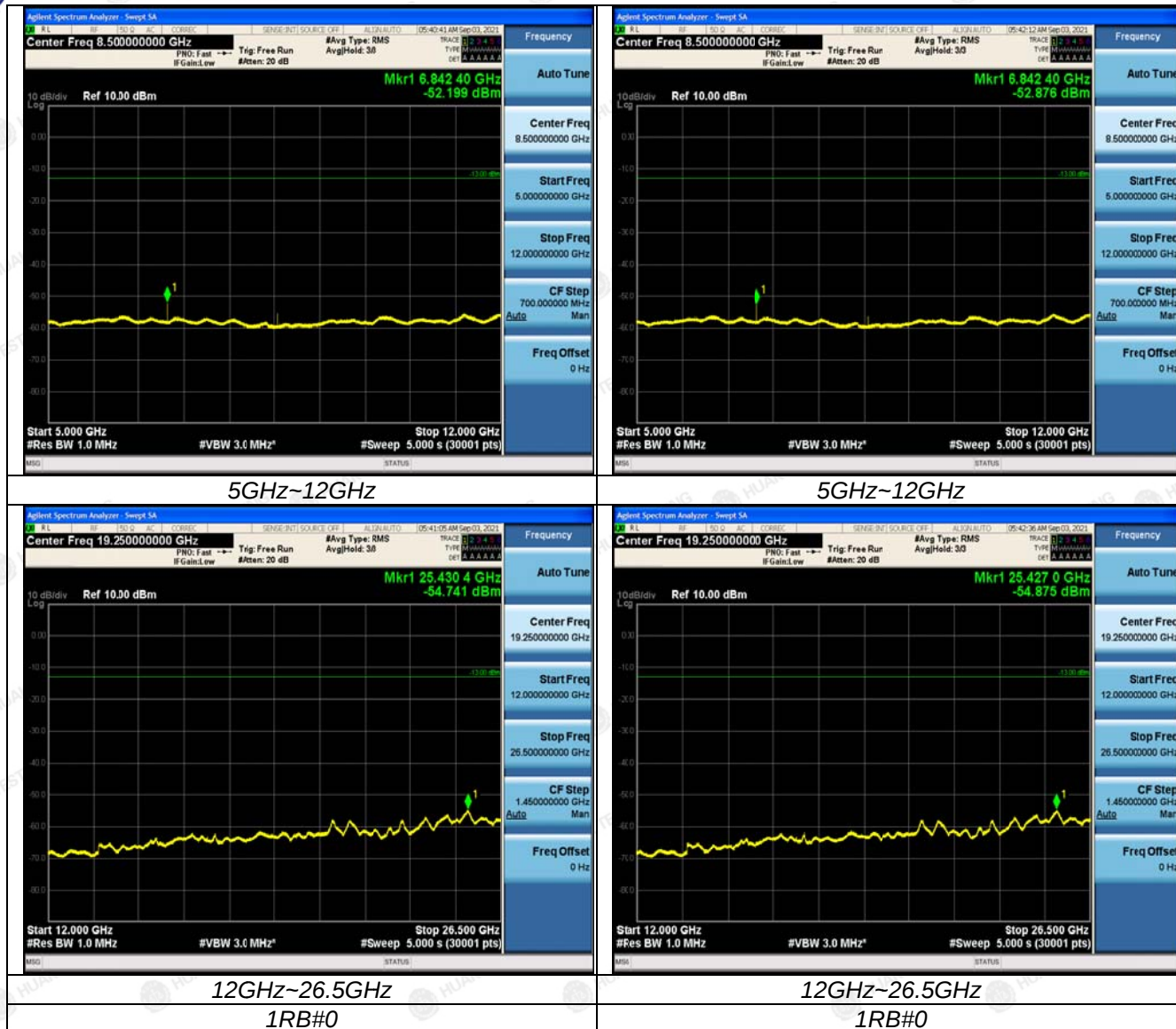
Low Channel



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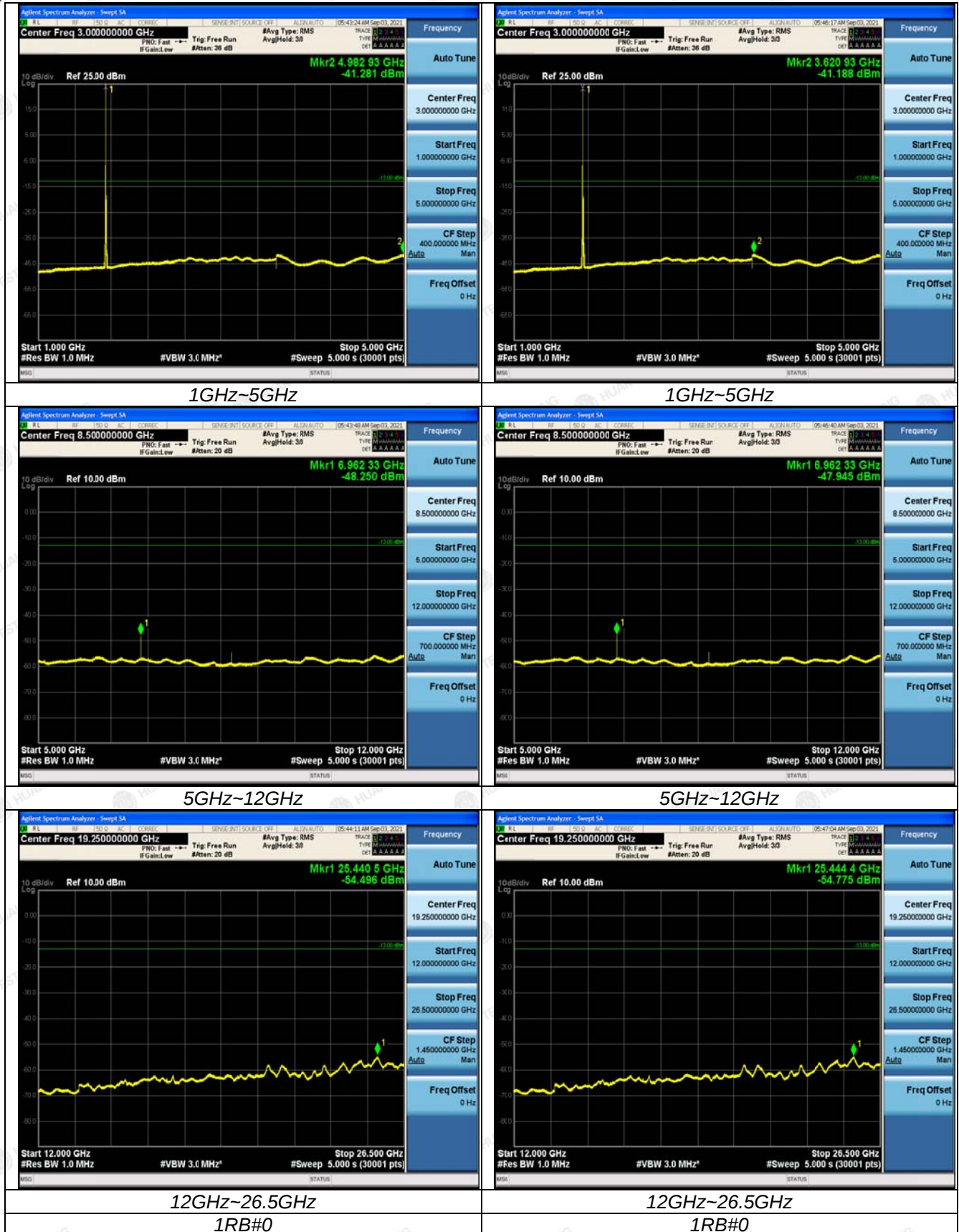
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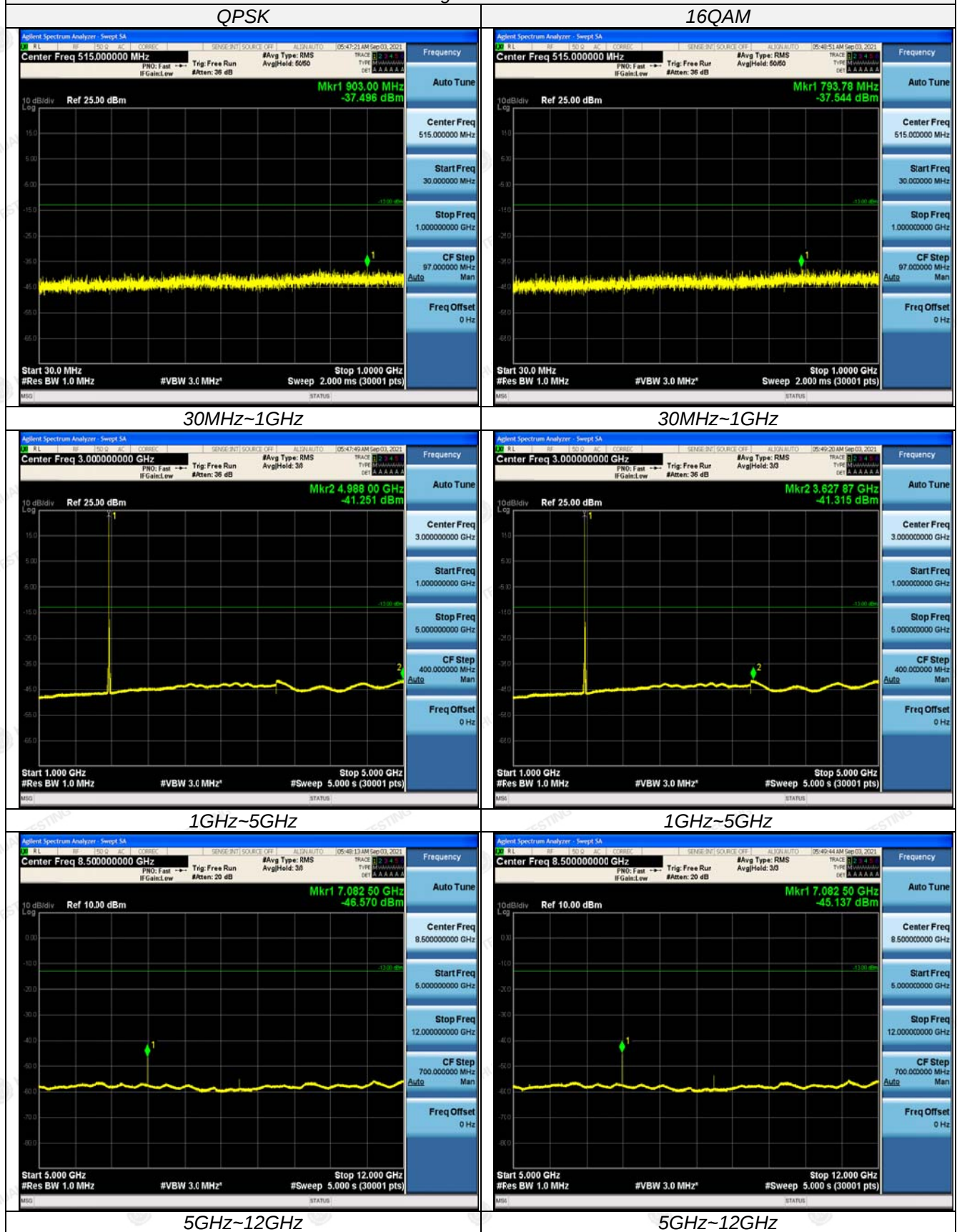
1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



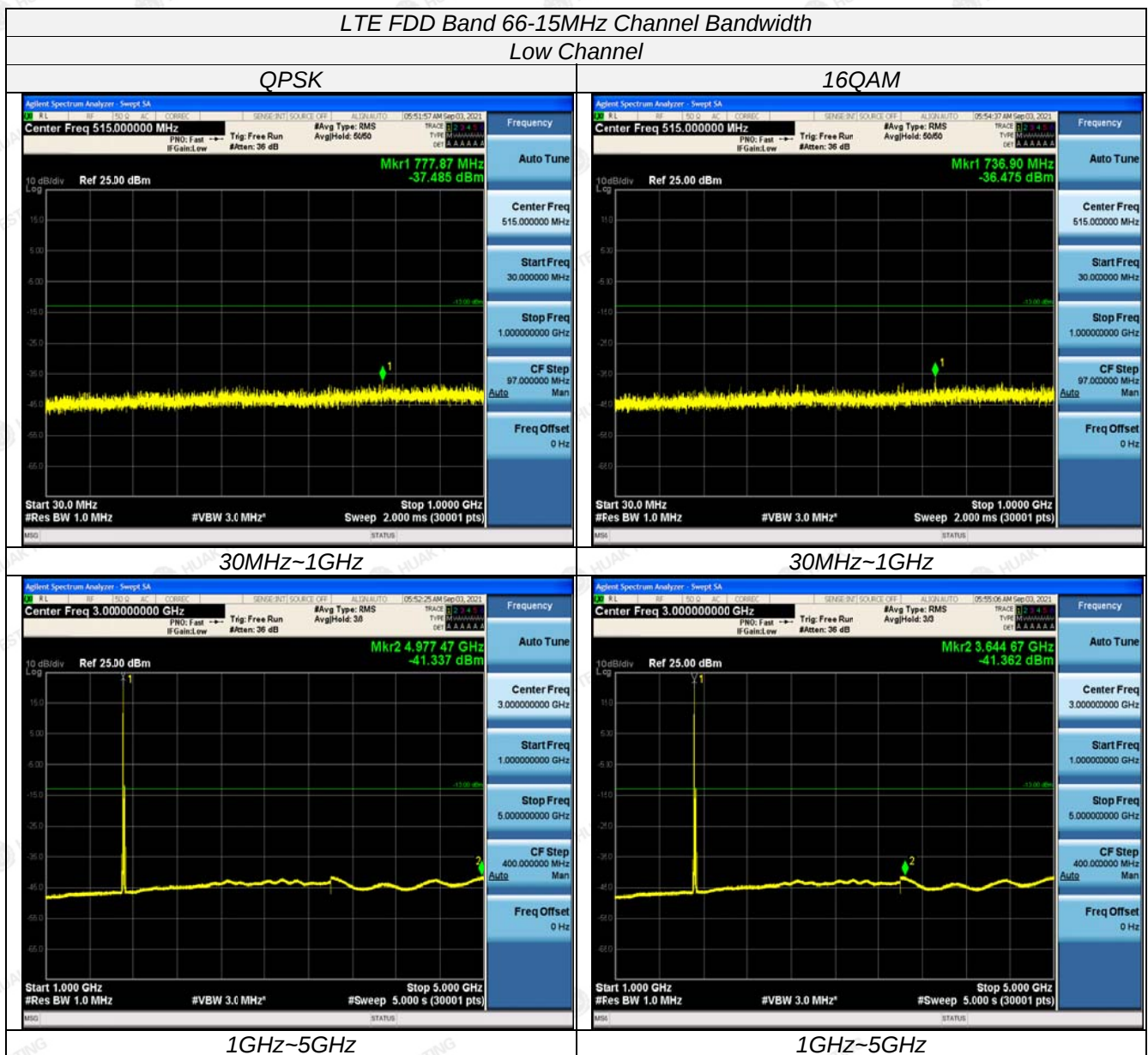
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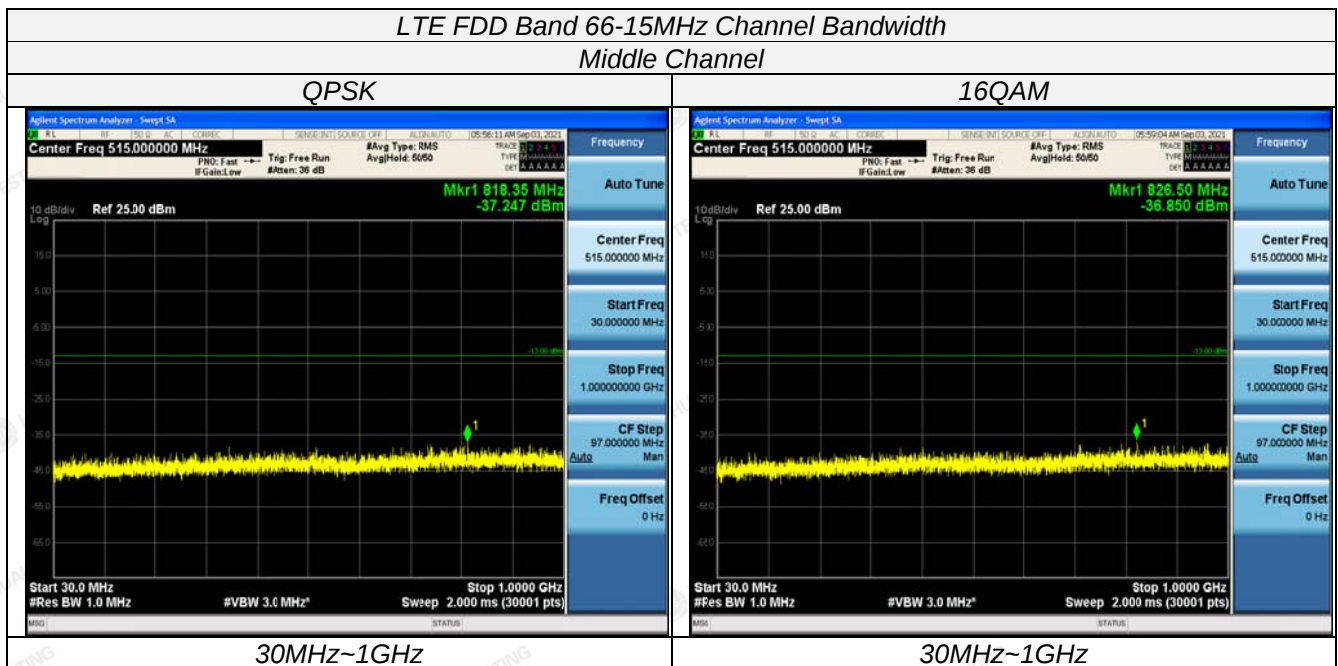
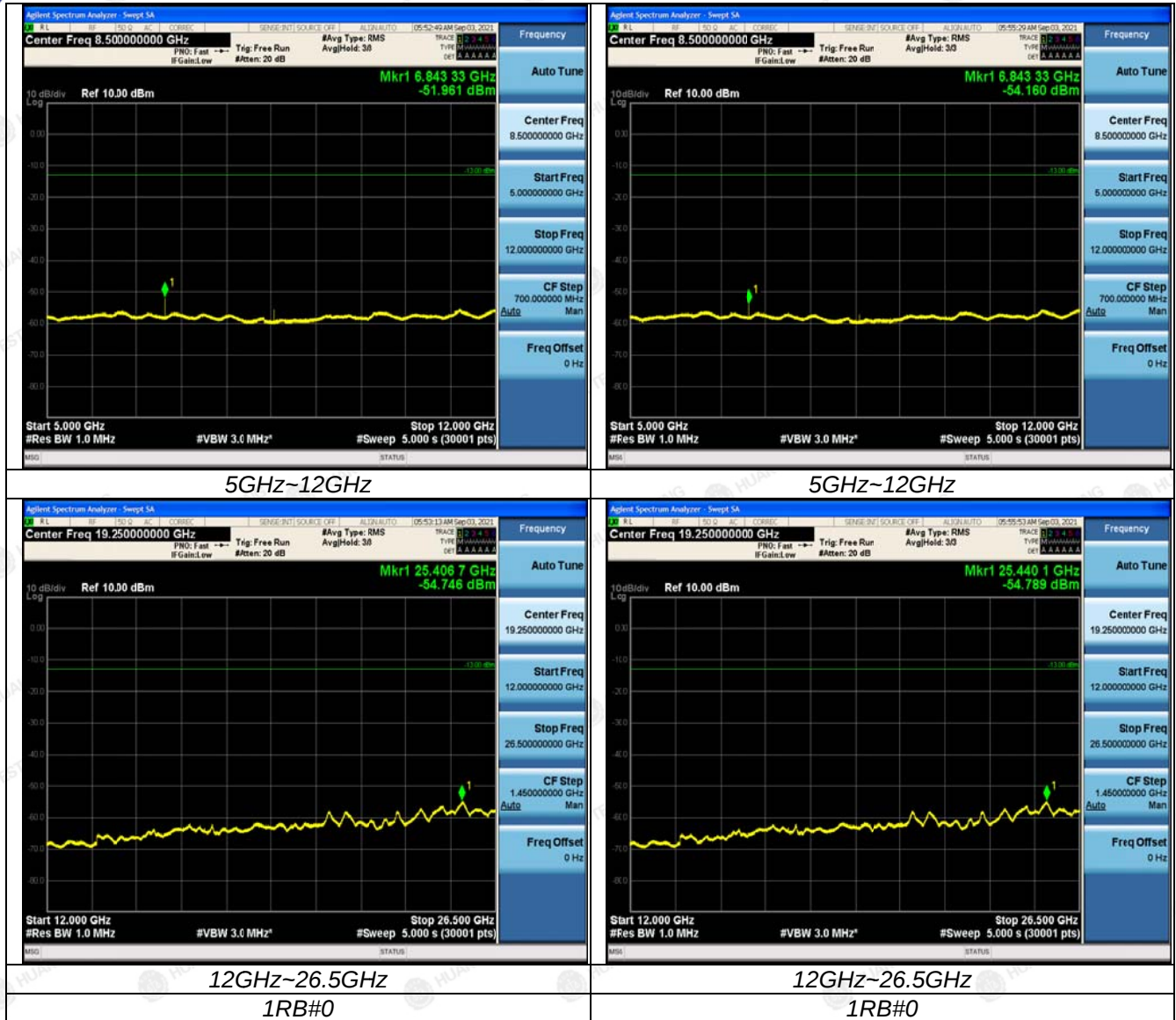
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LTE FDD Band 66-10MHz Channel Bandwidth
High Channel

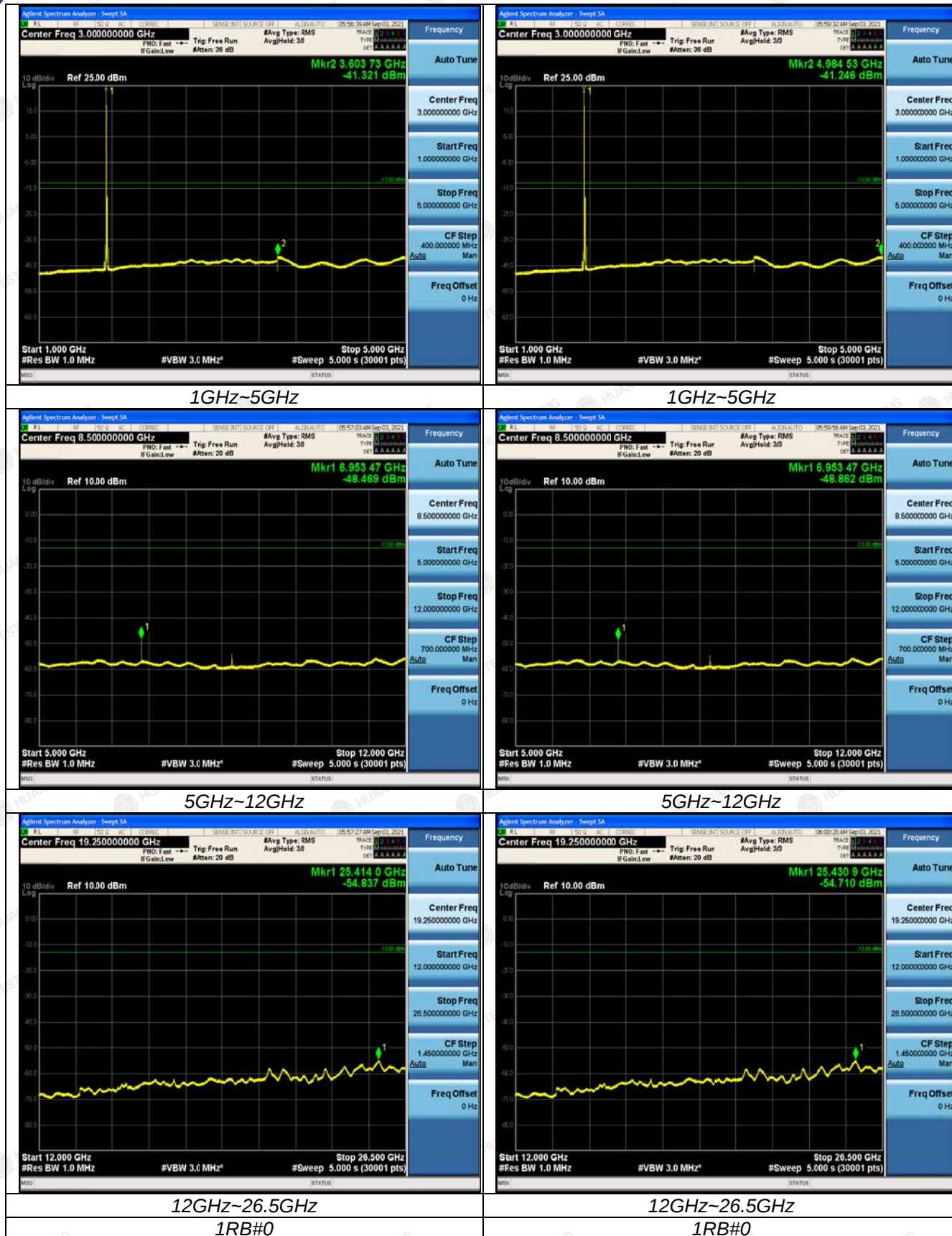
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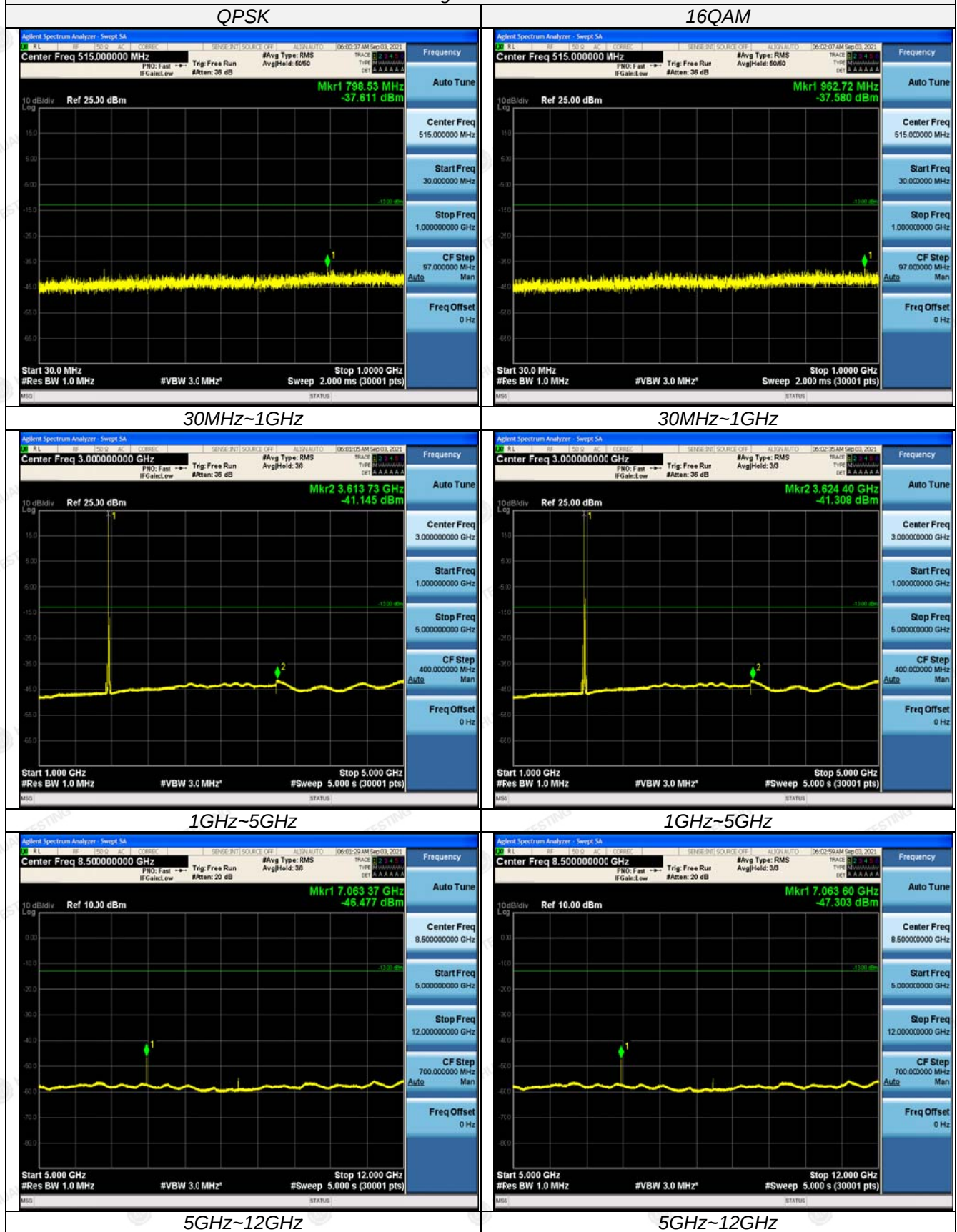
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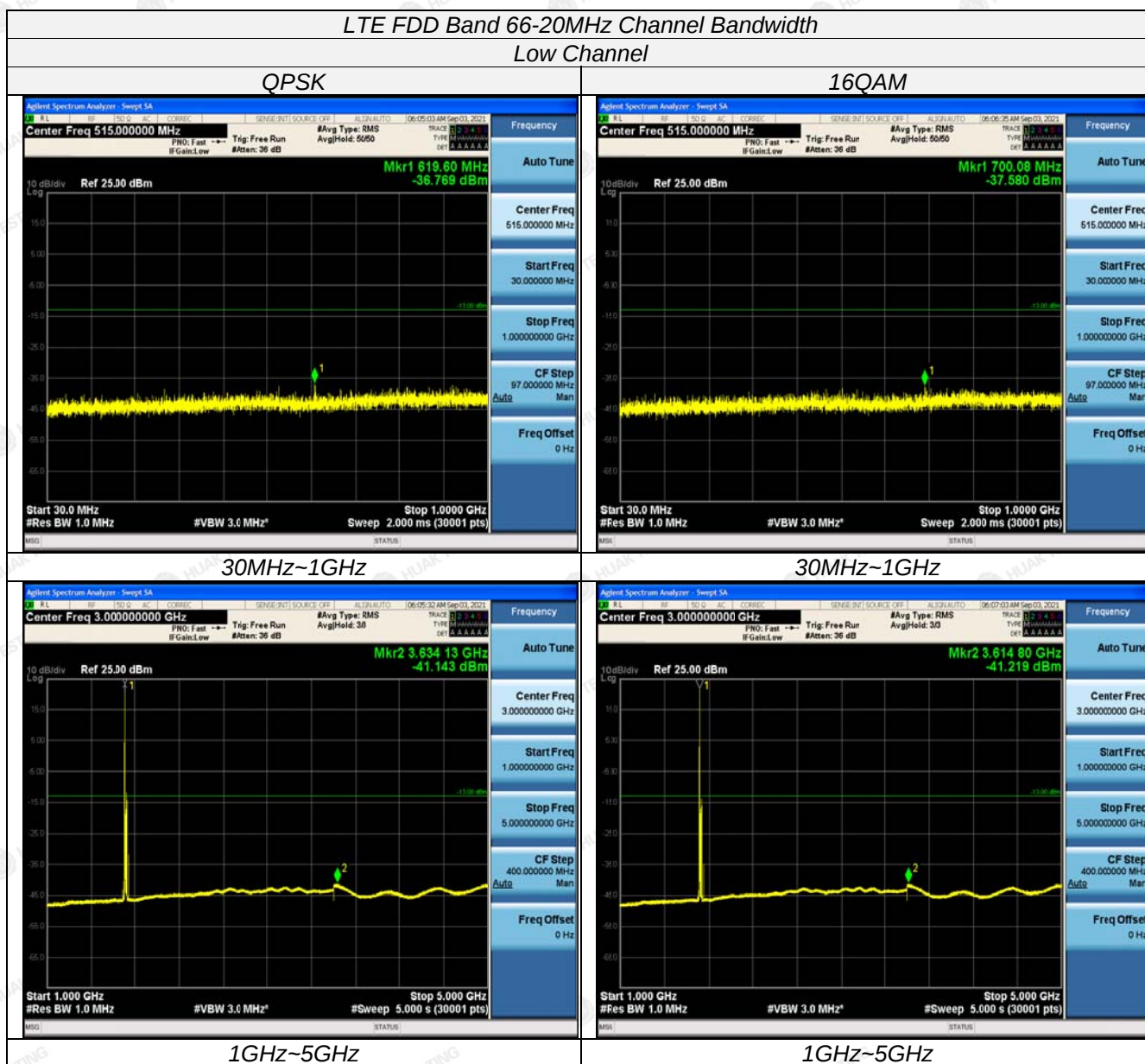
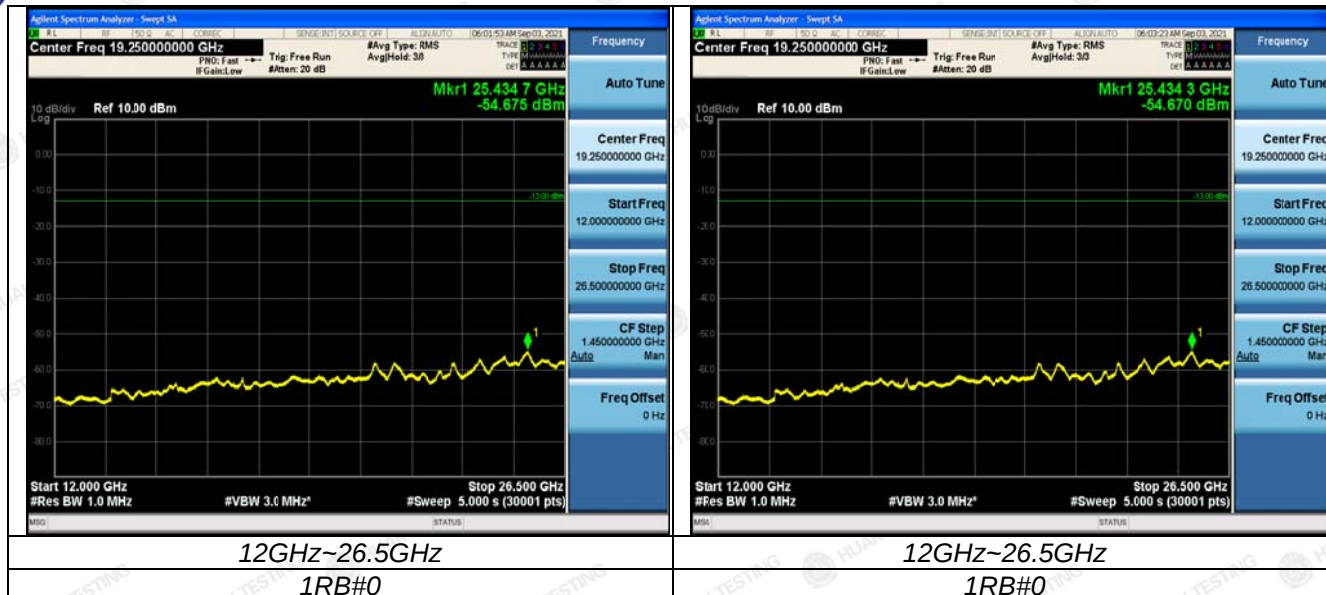
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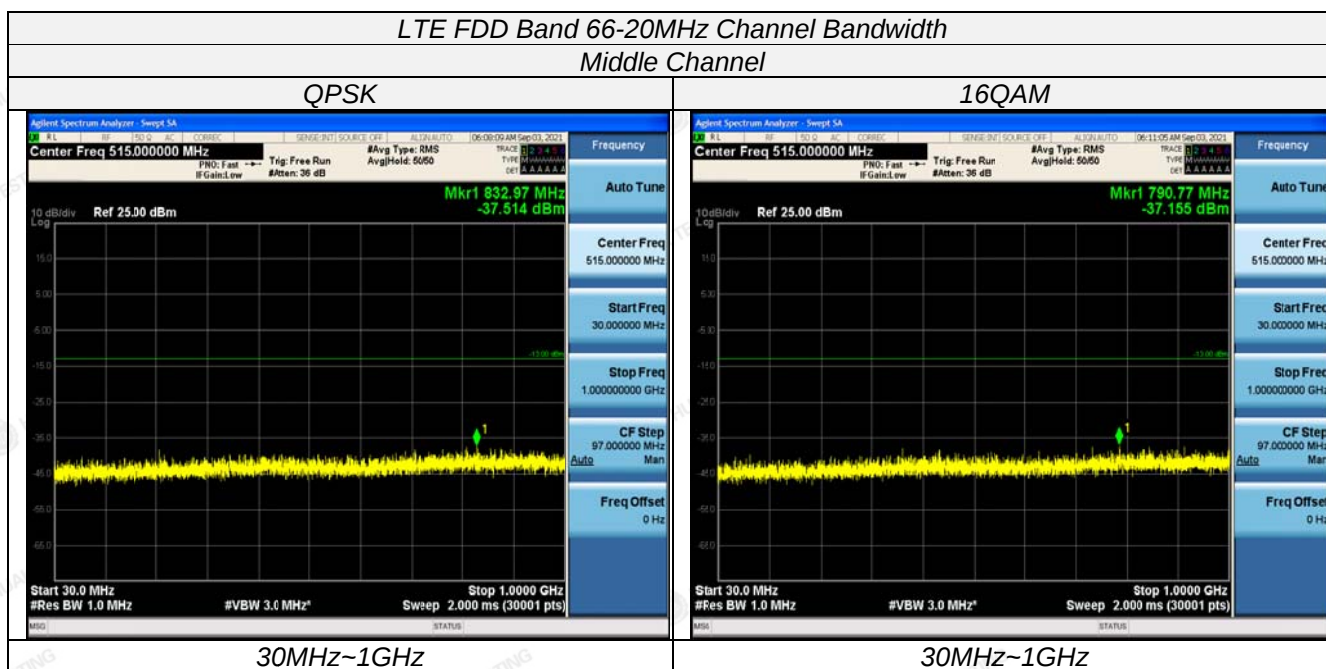
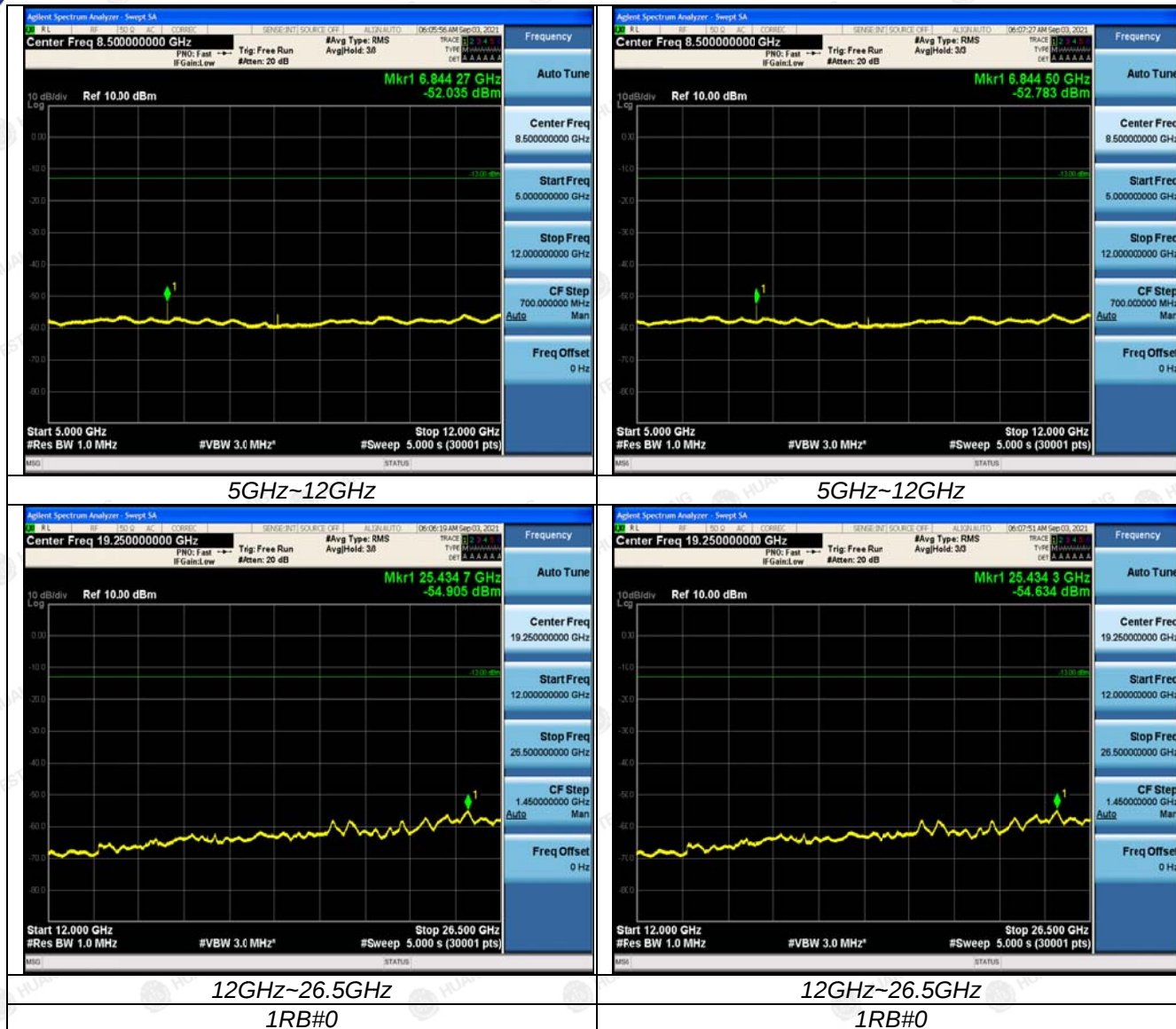
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LTE FDD Band 66-15MHz Channel Bandwidth
High Channel

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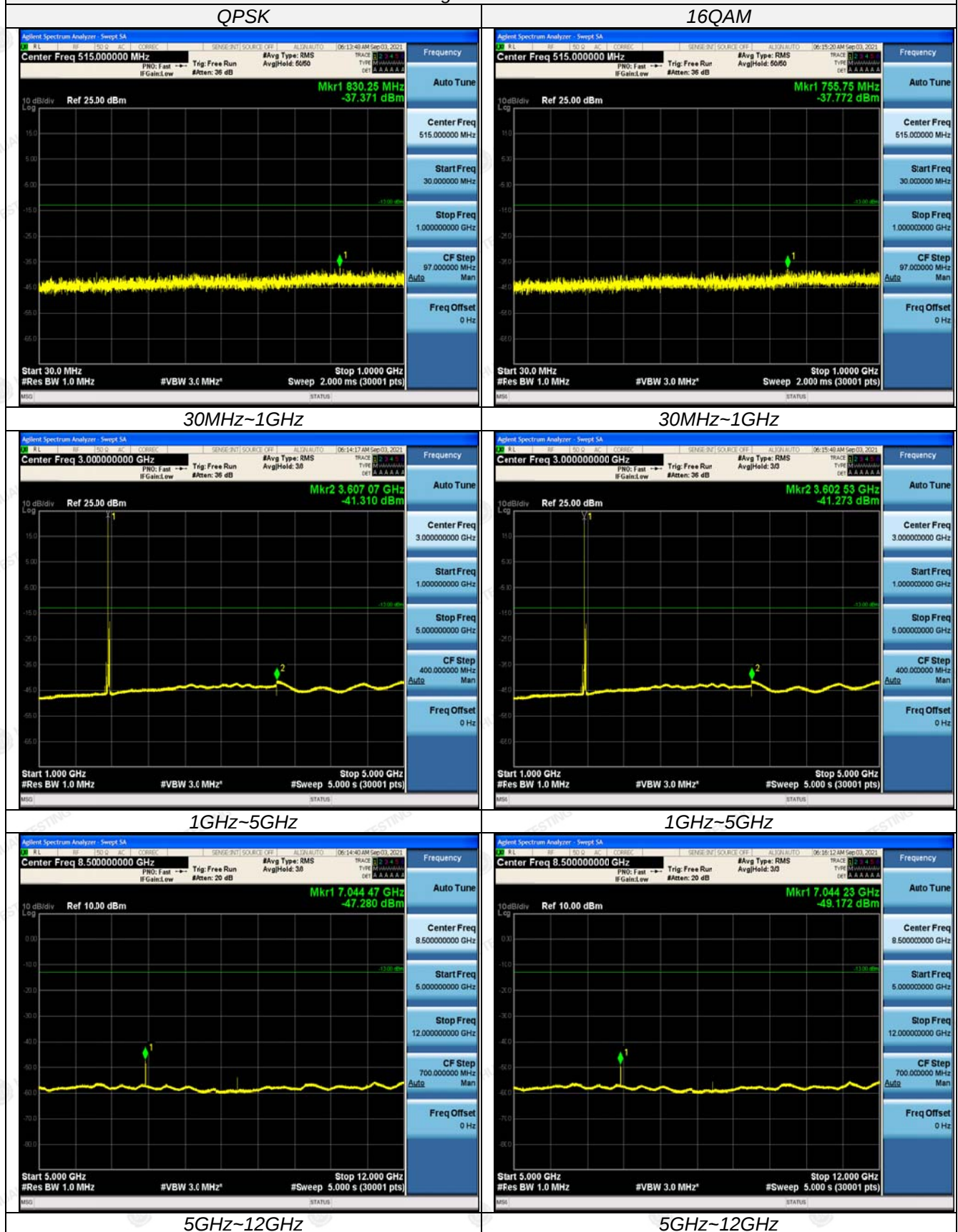
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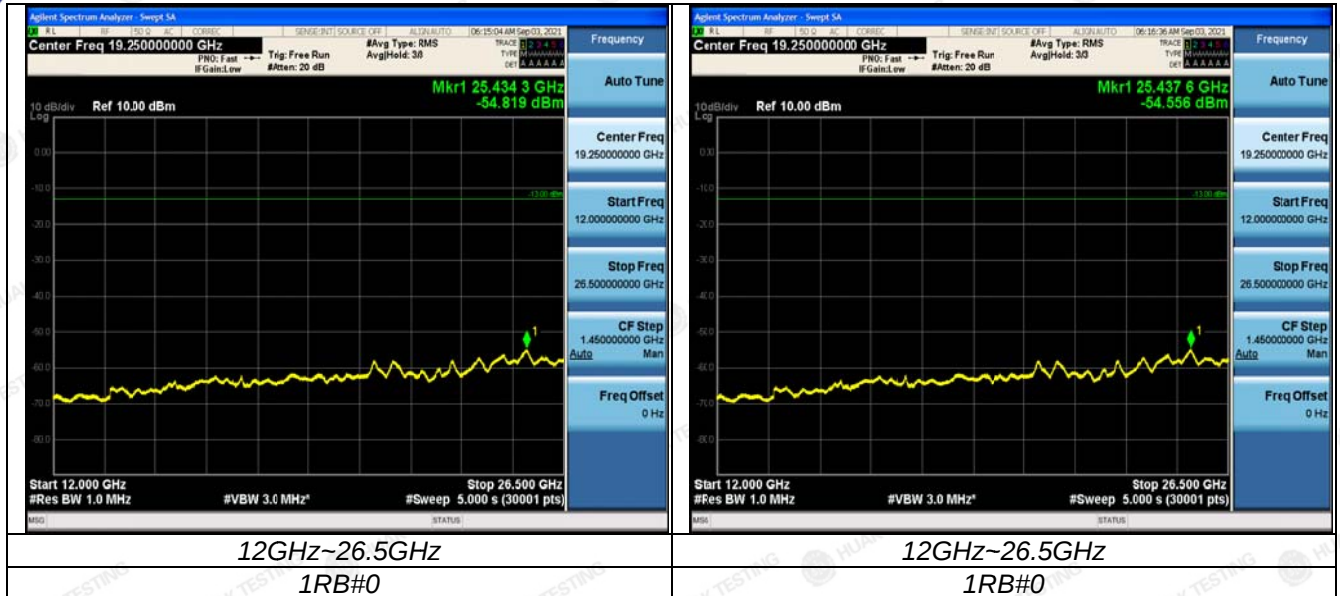
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LTE FDD Band 66-20MHz Channel Bandwidth
High Channel



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Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case for each Channel Bandwidth of LTE FDD Band 66.
2. $EIRP = P_{Mea}(dBm) - P_{cl}(dB) + G_a(dBi)$
3. We were not recorded other points as values lower than limits.
4. $Margin = Limit - EIRP$

LTE FDD Band 66 Channel Bandwidth 1.4MHz QPSK Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3421.4	-43.77	4.02	3	12.5	-35.29	-13.00	22.29	H
5132.1	-48.92	5.11	3	13.38	-40.65	-13.00	27.65	H
3421.4	-51.35	4.02	3	12.5	-42.87	-13.00	29.87	V
5132.1	-49.83	5.11	3	13.38	-41.56	-13.00	28.56	V

LTE FDD Band 66 Channel Bandwidth 1.4MHz QPSK Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.77	4.02	3	12.45	-35.34	-13.00	22.34	H
5235	-47.35	5.11	3	13.38	-39.08	-13.00	26.08	H
3490	-49.39	4.02	3	12.45	-40.96	-13.00	27.96	V
5235	-47.13	5.11	3	13.38	-38.86	-13.00	25.86	V

LTE FDD Band 66 Channel Bandwidth 1.4MHz QPSK High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3558.6	-43.33	4.02	3	12.21	-35.14	-13.00	22.14	H
5337.9	-47.18	5.11	3	13.26	-39.03	-13.00	26.03	H
3558.6	-49.13	4.02	3	12.21	-40.94	-13.00	27.94	V
5337.9	-48.22	5.11	3	13.26	-40.07	-13.00	27.07	V

LTE FDD Band 66 Channel Bandwidth 3MHz QPSK Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3423.0	-44.69	4.02	3	12.5	-36.21	-13.00	23.21	H
5134.5	-50.53	5.11	3	13.38	-42.26	-13.00	29.26	H
3423.0	-49.96	4.02	3	12.5	-41.48	-13.00	28.48	V
5134.5	-47.76	5.11	3	13.38	-39.49	-13.00	26.49	V

LTE FDD Band 66 Channel Bandwidth 3MHz QPSK Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.78	4.02	3	12.45	-35.35	-13.00	22.35	H
5235	-46.81	5.11	3	13.38	-38.54	-13.00	25.54	H
3490	-49.62	4.02	3	12.45	-41.19	-13.00	28.19	V
5235	-47.73	5.11	3	13.38	-39.46	-13.00	26.46	V



LTE FDD Band 66_Channel Bandwidth 3MHz_QPSK_High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3557	-43.44	4.02	3	12.21	-35.25	-13.00	22.25	H
5335.5	-46.09	5.11	3	13.26	-37.94	-13.00	24.94	H
3557	-48.94	4.02	3	12.21	-40.75	-13.00	27.75	V
5335.5	-48.19	5.11	3	13.26	-40.04	-13.00	27.04	V

LTE FDD Band 66_Channel Bandwidth 5MHz_QPSK_Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3425.0	-44.98	4.02	3	12.5	-36.5	-13.00	23.5	H
5137.5	-52.12	5.11	3	13.38	-43.85	-13.00	30.85	H
3425.0	-51.34	4.02	3	12.5	-42.86	-13.00	29.86	V
5137.5	-49.54	5.11	3	13.38	-41.27	-13.00	28.27	V

LTE FDD Band 66_Channel Bandwidth 5MHz_QPSK_Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.44	4.02	3	12.45	-35.01	-13.00	22.01	H
5235	-47.23	5.11	3	13.38	-38.96	-13.00	25.96	H
3490	-49.81	4.02	3	12.45	-41.38	-13.00	28.38	V
5235	-47.65	5.11	3	13.38	-39.38	-13.00	26.38	V

LTE FDD Band 66_Channel Bandwidth 5MHz_QPSK_High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3555	-43.71	4.02	3	12.21	-35.52	-13.00	22.52	H
5332.5	-46.48	5.11	3	13.26	-38.33	-13.00	25.33	H
3555	-48.95	4.02	3	12.21	-40.76	-13.00	27.76	V
5332.5	-48.79	5.11	3	13.26	-40.64	-13.00	27.64	V

LTE FDD Band 66_Channel Bandwidth 10MHz_QPSK_Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3430.0	-45.46	4.02	3	12.5	-36.98	-13.00	23.98	H
5145.0	-51.64	5.11	3	13.38	-43.37	-13.00	30.37	H
3430.0	-50.54	4.02	3	12.5	-42.06	-13.00	29.06	V
5145.0	-48.82	5.11	3	13.38	-40.55	-13.00	27.55	V

LTE FDD Band 66_Channel Bandwidth 10MHz_QPSK_Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.98	4.02	3	12.45	-35.55	-13.00	22.55	H
5235	-47.17	5.11	3	13.38	-38.9	-13.00	25.9	H
3490	-49.41	4.02	3	12.45	-40.98	-13.00	27.98	V
5235	-47.82	5.11	3	13.38	-39.55	-13.00	26.55	V



LTE FDD Band 66_Channel Bandwidth 10MHz_QPSK_High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3550	-43.72	4.02	3	12.21	-35.53	-13.00	22.53	H
5325	-46.07	5.11	3	13.26	-37.92	-13.00	24.92	H
3550	-48.1	4.02	3	12.21	-39.91	-13.00	26.91	V
5325	-48.72	5.11	3	13.26	-40.57	-13.00	27.57	V

LTE FDD Band 66_Channel Bandwidth 15MHz_QPSK_Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3435.0	-45.68	4.02	3	12.5	-37.2	-13.00	24.2	H
5152.5	-49.41	5.11	3	13.38	-41.14	-13.00	28.14	H
3435.0	-50.38	4.02	3	12.5	-41.9	-13.00	28.9	V
5152.5	-49.95	5.11	3	13.38	-41.68	-13.00	28.68	V

LTE FDD Band 66_Channel Bandwidth 15MHz_QPSK_Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.42	4.02	3	12.45	-34.99	-13.00	21.99	H
5235	-47.36	5.11	3	13.38	-39.09	-13.00	26.09	H
3490	-49.91	4.02	3	12.45	-41.48	-13.00	28.48	V
5235	-47.43	5.11	3	13.38	-39.16	-13.00	26.16	V

LTE FDD Band 66_Channel Bandwidth 15MHz_QPSK_High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3545	-42.95	4.02	3	12.21	-34.76	-13.00	21.76	H
5317.5	-46.82	5.11	3	13.26	-38.67	-13.00	25.67	H
3545	-48.48	4.02	3	12.21	-40.29	-13.00	27.29	V
5317.5	-48.12	5.11	3	13.26	-39.97	-13.00	26.97	V

LTE FDD Band 66_Channel Bandwidth 20MHz_QPSK_Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-44.44	4.02	3	12.5	-35.96	-13.00	22.96	H
5160.0	-51.86	5.11	3	13.38	-43.59	-13.00	30.59	H
3440.0	-50.44	4.02	3	12.5	-41.96	-13.00	28.96	V
5160.0	-47.94	5.11	3	13.38	-39.67	-13.00	26.67	V

LTE FDD Band 66_Channel Bandwidth 20MHz_QPSK_Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.23	4.02	3	12.45	-34.8	-13.00	21.8	H
5235	-47.4	5.11	3	13.38	-39.13	-13.00	26.13	H
3490	-49.77	4.02	3	12.45	-41.34	-13.00	28.34	V
5235	-47.95	5.11	3	13.38	-39.68	-13.00	26.68	V



LTE FDD Band 66 Channel Bandwidth 20MHz QPSK High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3540	-43.67	4.02	3	12.21	-35.48	-13.00	22.48	H
5310	-46.59	5.11	3	13.26	-38.44	-13.00	25.44	H
3540	-48.07	4.02	3	12.21	-39.88	-13.00	26.88	V
5310	-48.44	5.11	3	13.26	-40.29	-13.00	27.29	V

LTE FDD Band 66 Channel Bandwidth 1.4MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3421.4	-44.74	4.02	3	12.5	-36.26	-13.00	23.26	H
5132.1	-50.96	5.11	3	13.38	-42.69	-13.00	29.69	H
3421.4	-50.59	4.02	3	12.5	-42.11	-13.00	29.11	V
5132.1	-49.6	5.11	3	13.38	-41.33	-13.00	28.33	V

LTE FDD Band 66 Channel Bandwidth 1.4MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.42	4.02	3	12.45	-34.99	-13.00	21.99	H
5235	-47.56	5.11	3	13.38	-39.29	-13.00	26.29	H
3490	-49.72	4.02	3	12.45	-41.29	-13.00	28.29	V
5235	-47.85	5.11	3	13.38	-39.58	-13.00	26.58	V

LTE FDD Band 66 Channel Bandwidth 1.4MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3558.6	-42.96	4.02	3	12.21	-34.77	-13.00	21.77	H
5337.9	-46.71	5.11	3	13.26	-38.56	-13.00	25.56	H
3558.6	-48.35	4.02	3	12.21	-40.16	-13.00	27.16	V
5337.9	-48.12	5.11	3	13.26	-39.97	-13.00	26.97	V

LTE FDD Band 66 Channel Bandwidth 3MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3423.0	-46.3	4.02	3	12.5	-37.82	-13.00	24.82	H
5134.5	-50.31	5.11	3	13.38	-42.04	-13.00	29.04	H
3423.0	-50.85	4.02	3	12.5	-42.37	-13.00	29.37	V
5134.5	-48.09	5.11	3	13.38	-39.82	-13.00	26.82	V

LTE FDD Band 66 Channel Bandwidth 3MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-44.14	4.02	3	12.45	-35.71	-13.00	22.71	H
5235	-46.82	5.11	3	13.38	-38.55	-13.00	25.55	H
3490	-49.74	4.02	3	12.45	-41.31	-13.00	28.31	V
5235	-47.65	5.11	3	13.38	-39.38	-13.00	26.38	V



LTE FDD Band 66 Channel Bandwidth 3MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3557	-43.53	4.02	3	12.21	-35.34	-13.00	22.34	H
5335.5	-46.4	5.11	3	13.26	-38.25	-13.00	25.25	H
3557	-48.59	4.02	3	12.21	-40.4	-13.00	27.4	V
5335.5	-48.34	5.11	3	13.26	-40.19	-13.00	27.19	V

LTE FDD Band 66 Channel Bandwidth 5MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3425.0	-45.52	4.02	3	12.5	-37.04	-13.00	24.04	H
5137.5	-51.26	5.11	3	13.38	-42.99	-13.00	29.99	H
3425.0	-50.2	4.02	3	12.5	-41.72	-13.00	28.72	V
5137.5	-48.75	5.11	3	13.38	-40.48	-13.00	27.48	V

LTE FDD Band 66 Channel Bandwidth 5MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.83	4.02	3	12.45	-35.4	-13.00	22.4	H
5235	-47.43	5.11	3	13.38	-39.16	-13.00	26.16	H
3490	-49.73	4.02	3	12.45	-41.3	-13.00	28.3	V
5235	-47.78	5.11	3	13.38	-39.51	-13.00	26.51	V

LTE FDD Band 66 Channel Bandwidth 5MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3555	-43.04	4.02	3	12.21	-34.85	-13.00	21.85	H
5332.5	-46.42	5.11	3	13.26	-38.27	-13.00	25.27	H
3555	-48.66	4.02	3	12.21	-40.47	-13.00	27.47	V
5332.5	-48.76	5.11	3	13.26	-40.61	-13.00	27.61	V

LTE FDD Band 66 Channel Bandwidth 10MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3430.0	-47.21	4.02	3	12.5	-38.73	-13.00	25.73	H
5145.0	-52.06	5.11	3	13.38	-43.79	-13.00	30.79	H
3430.0	-49.33	4.02	3	12.5	-40.85	-13.00	27.85	V
5145.0	-49.56	5.11	3	13.38	-41.29	-13.00	28.29	V

LTE FDD Band 66 Channel Bandwidth 10MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.15	4.02	3	12.45	-34.72	-13.00	21.72	H
5235	-47.15	5.11	3	13.38	-38.88	-13.00	25.88	H
3490	-49.25	4.02	3	12.45	-40.82	-13.00	27.82	V
5235	-48.26	5.11	3	13.38	-39.99	-13.00	26.99	V



LTE FDD Band 66 Channel Bandwidth 10MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3550	-43.18	4.02	3	12.21	-34.99	-13.00	21.99	H
5325	-46.39	5.11	3	13.26	-38.24	-13.00	25.24	H
3550	-48.11	4.02	3	12.21	-39.92	-13.00	26.92	V
5325	-48.79	5.11	3	13.26	-40.64	-13.00	27.64	V

LTE FDD Band 66 Channel Bandwidth 15MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3435.0	-45.46	4.02	3	12.5	-36.98	-13.00	23.98	H
5152.5	-51.3	5.11	3	13.38	-43.03	-13.00	30.03	H
3435.0	-51.2	4.02	3	12.5	-42.72	-13.00	29.72	V
5152.5	-50.01	5.11	3	13.38	-41.74	-13.00	28.74	V

LTE FDD Band 66 Channel Bandwidth 15MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.65	4.02	3	12.45	-35.22	-13.00	22.22	H
5235	-47.14	5.11	3	13.38	-38.87	-13.00	25.87	H
3490	-49.63	4.02	3	12.45	-41.2	-13.00	28.2	V
5235	-48.1	5.11	3	13.38	-39.83	-13.00	26.83	V

LTE FDD Band 66 Channel Bandwidth 15MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3545	-43.1	4.02	3	12.21	-34.91	-13.00	21.91	H
5317.5	-46.31	5.11	3	13.26	-38.16	-13.00	25.16	H
3545	-48.56	4.02	3	12.21	-40.37	-13.00	27.37	V
5317.5	-48	5.11	3	13.26	-39.85	-13.00	26.85	V

LTE FDD Band 66 Channel Bandwidth 20MHz 16QAM Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3440.0	-43.9	4.02	3	12.5	-35.42	-13.00	22.42	H
5160.0	-49.96	5.11	3	13.38	-41.69	-13.00	28.69	H
3440.0	-50.42	4.02	3	12.5	-41.94	-13.00	28.94	V
5160.0	-48.31	5.11	3	13.38	-40.04	-13.00	27.04	V

LTE FDD Band 66 Channel Bandwidth 20MHz 16QAM Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490	-43.37	4.02	3	12.45	-34.94	-13.00	21.94	H
5235	-47.49	5.11	3	13.38	-39.22	-13.00	26.22	H
3490	-49.35	4.02	3	12.45	-40.92	-13.00	27.92	V
5235	-47.95	5.11	3	13.38	-39.68	-13.00	26.68	V



LTE FDD Band 66 Channel Bandwidth 20MHz 16QAM High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3540	-43.44	4.02	3	12.21	-35.25	-13.00	22.25	H
5310	-46.3	5.11	3	13.26	-38.15	-13.00	25.15	H
3540	-48.08	4.02	3	12.21	-39.89	-13.00	26.89	V
5310	-48.38	5.11	3	13.26	-40.23	-13.00	27.23	V

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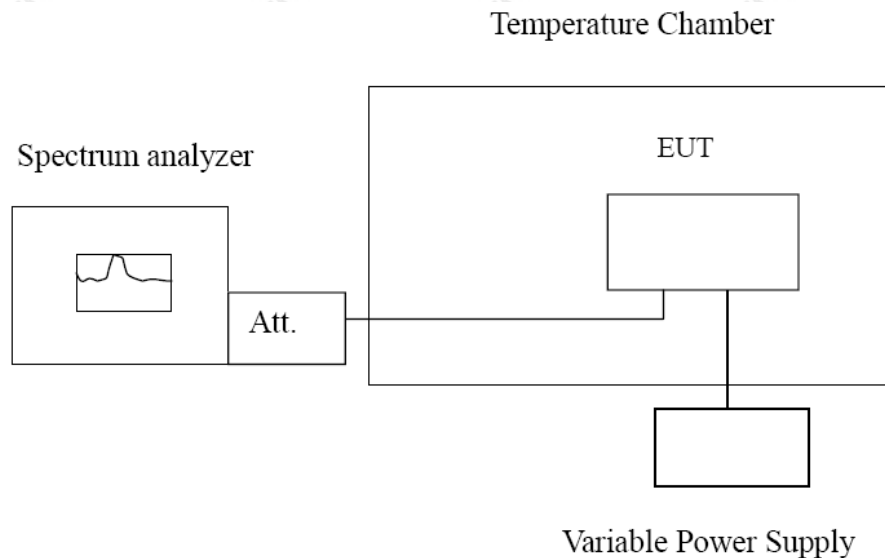


3.7 Frequency Stability under Temperature & Voltage Variations

LIMIT

According to §27.54, §2.1055 requirement, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation and should not exceed 2.5ppm.

TEST CONFIGURATION



TEST PROCEDURE

The EUT was setup according to EIA/TIA 603D

Frequency Stability Under Temperature Variations:

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a "call mode". This is accomplished with the use of R&S CMW500 DIGITAL RADIO COMMUNICATION TESTER.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30°C.
3. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on middle channel for LTE band 4, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50°C.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the centre channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 °C increments from +50°C to -30°C. Allow at least 1.5 hours at each temperature, unpowered, before making measurements
9. At all temperature levels hold the temperature to +/- 0.5°C during the measurement procedure.

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.



Remark:

1. We tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 66; recorded worst case.

LTE Band 66, 1.4MHz bandwidth , QPSK (worst case of all bandwidths)

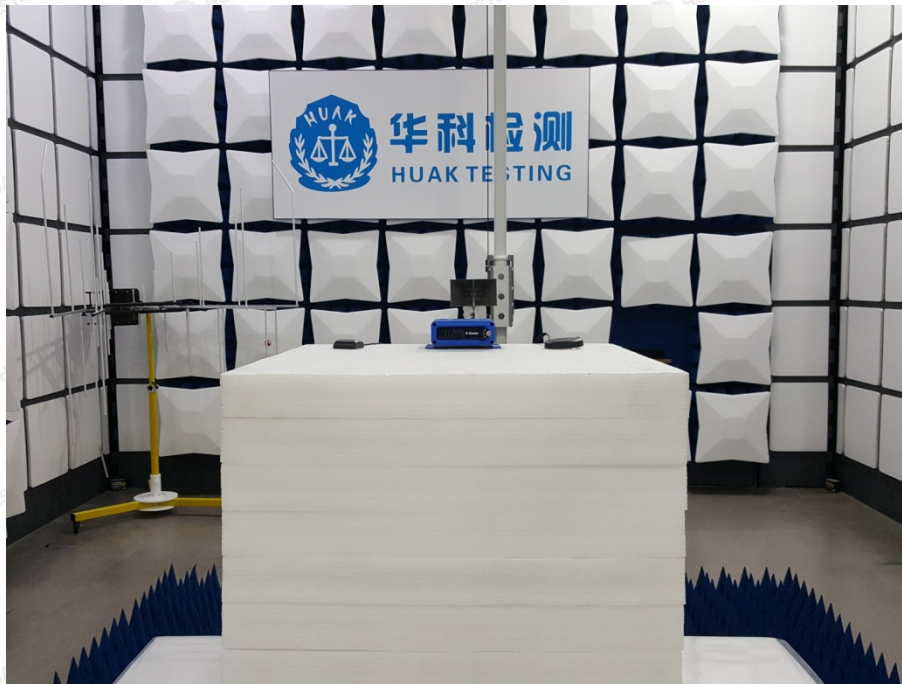
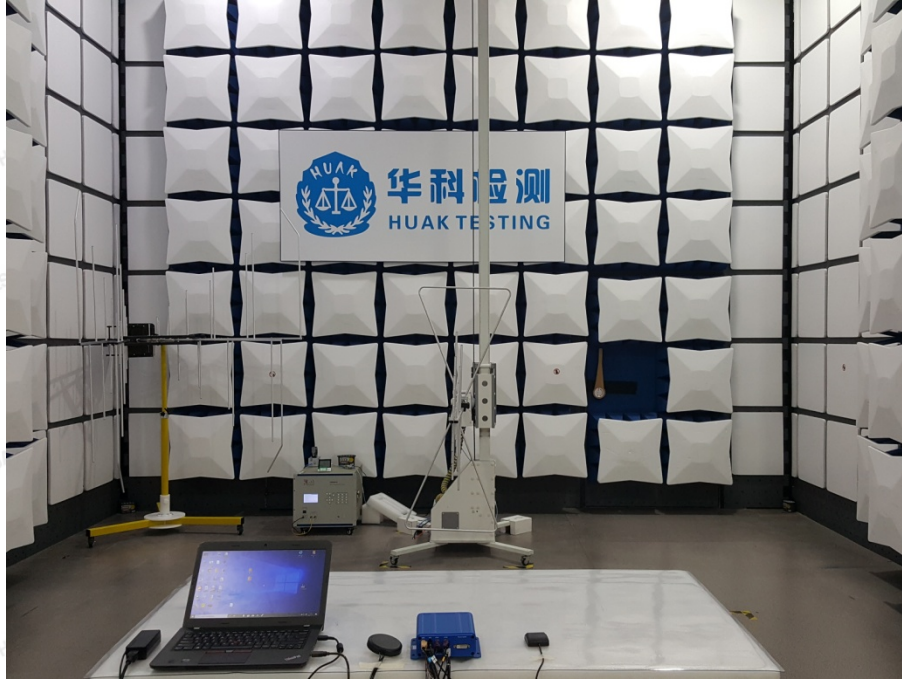
LTE FDD Band 66				
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Verdict
10.2	20	-5.85	-0.003352	PASS
12	20	-6.78	-0.003885	PASS
13.8	20	-9.50	-0.005444	PASS
12	-30	3.91	0.002197	PASS
12	-20	-4.22	-0.002372	PASS
12	-10	3.56	0.002001	PASS
12	0	4.26	0.002394	PASS
12	10	-4.48	-0.002518	PASS
12	20	-6.28	-0.003529	PASS
12	30	-4.22	-0.002372	PASS
12	40	-5.08	-0.002855	PASS
12	50	2.12	0.001191	PASS

LTE Band 66, 1.4MHz bandwidth , 16QAM (worst case of all bandwidths)

LTE FDD Band 66				
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Verdict
10.2	20	3.12	0.001824	PASS
12	20	-4.94	-0.002888	PASS
13.8	20	5.18	0.003028	PASS
12	-30	-2.99	-0.001748	PASS
12	-20	4.71	0.002753	PASS
12	-10	3.30	0.001929	PASS
12	0	3.33	0.001947	PASS
12	10	5.84	0.003414	PASS
12	20	5.08	0.002970	PASS
12	30	-6.44	-0.003691	PASS
12	40	-6.08	-0.003484	PASS
12	50	-5.44	-0.003117	PASS



4 Test Setup Photos of the EUT



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5 PHOTOS OF THE EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos

***** End of Report *****