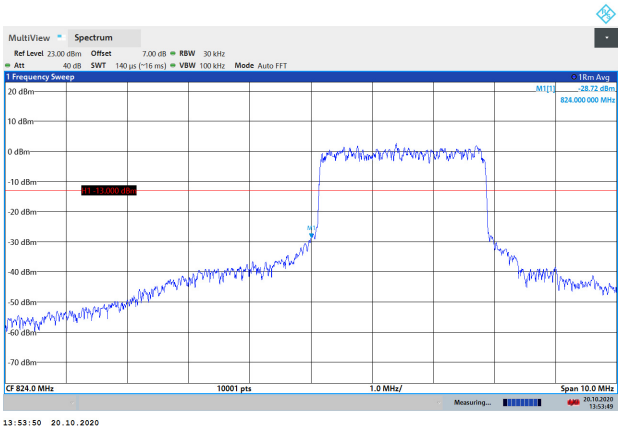
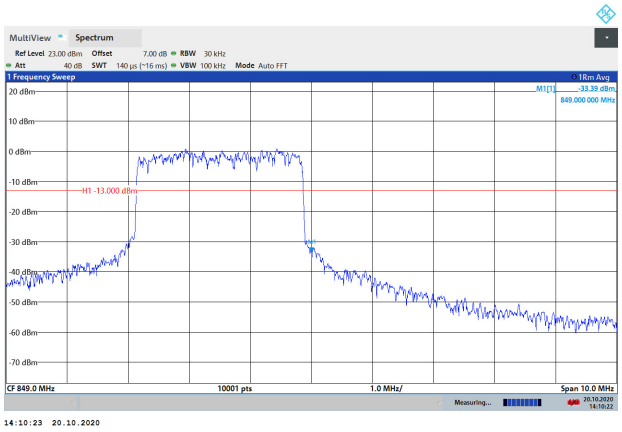
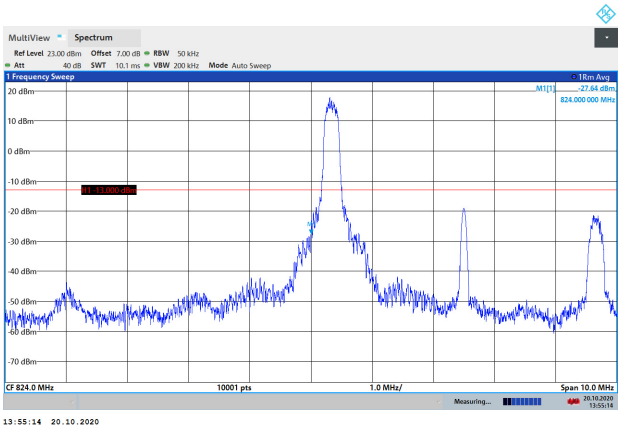
LTE Band 5 16QAM 3MHz CH-Low 100%RB



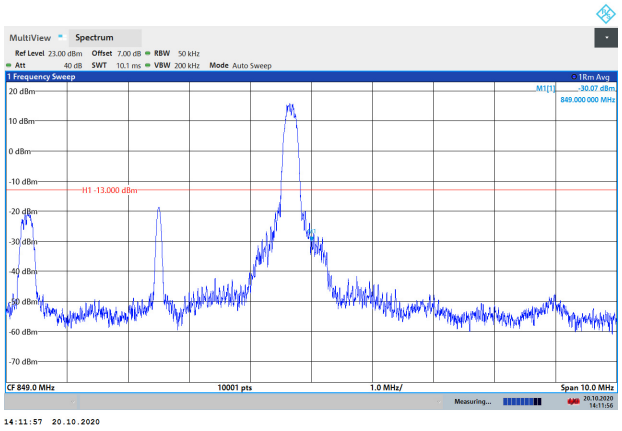
LTE Band 5 16QAM 3MHz CH-High 100%RB



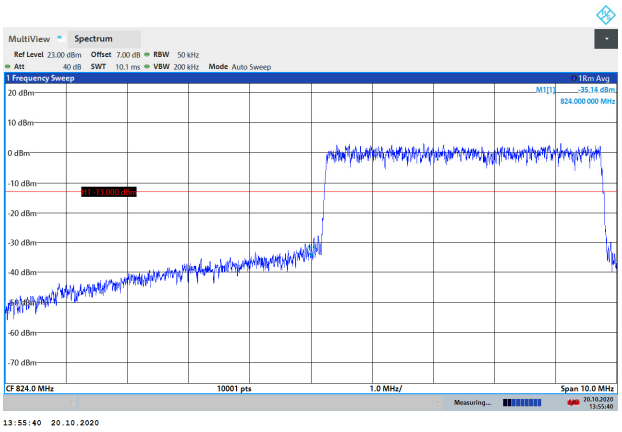
LTE Band 5 16QAM 5MHz CH-Low 1RB



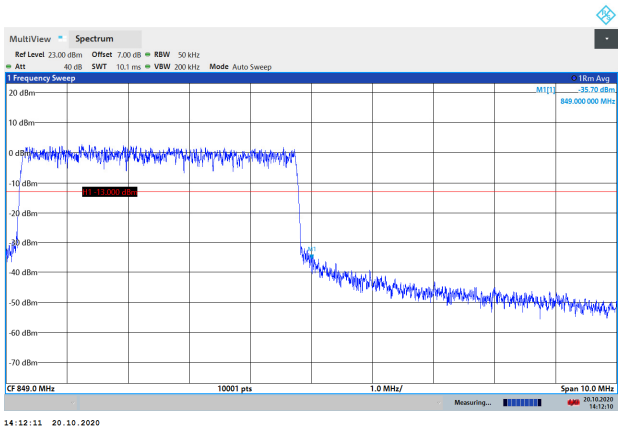
LTE Band 5 16QAM 5MHz CH-High 1RB



LTE Band 5 16QAM 5MHz CH-Low 100%RB



LTE Band 5 16QAM 5MHz CH-High 100%RB



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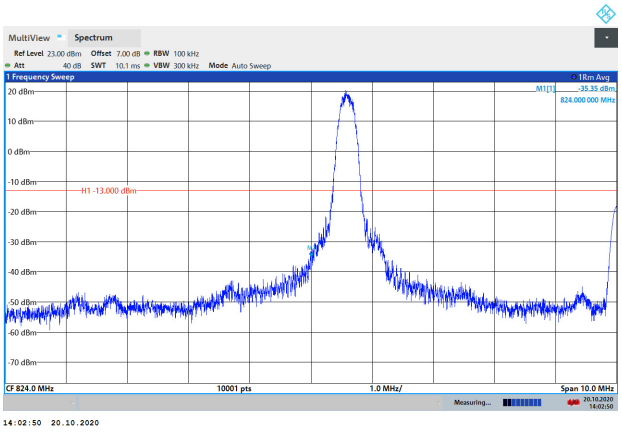
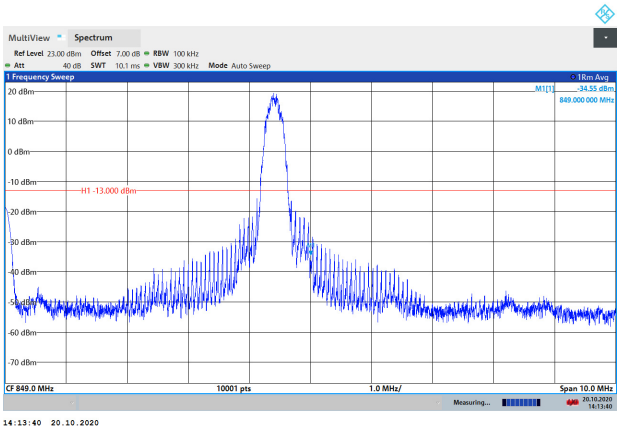
LTE Band 5 16QAM 10MHz CH-Low 1RB



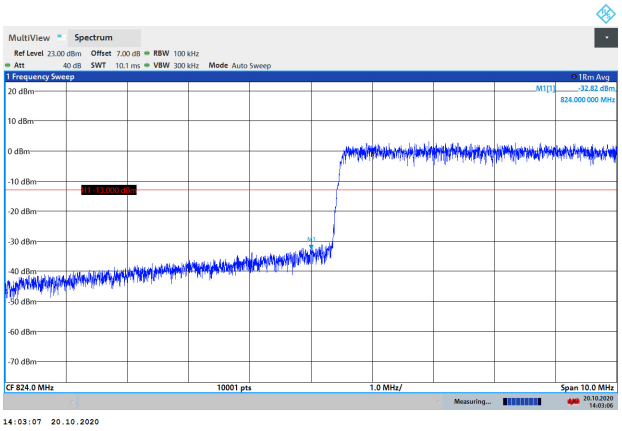
14:02:50 20.10.2020

LTE Band 5 16QAM 10MHz CH-High 1RB



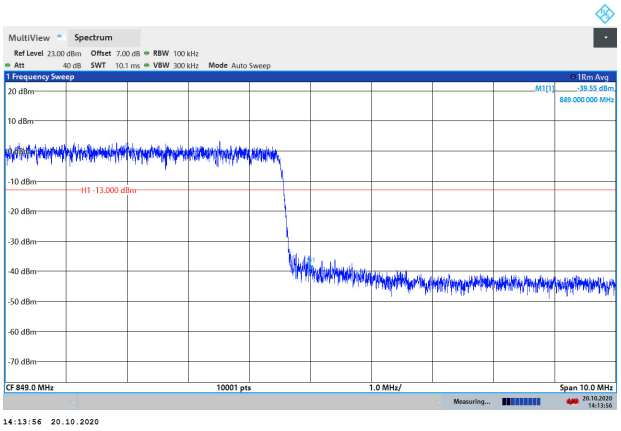
14:13:40 20.10.2020

LTE Band 5 16QAM 10MHz CH-Low 100%RB



14:03:07 20.10.2020

LTE Band 5 16QAM 10MHz CH-High 100%RB



14:13:56 20.10.2020

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5.4. Peak-to-Average Power Ratio (PAPR)

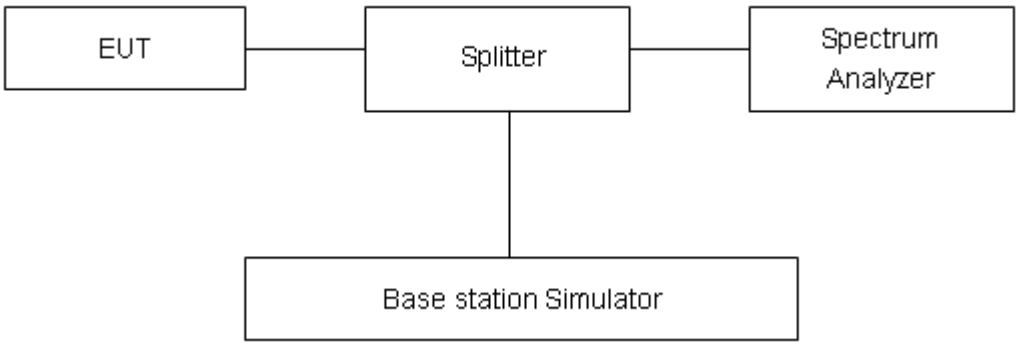
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as P_{Pk}. And measure the total average power and record as P_{Avg}. Both the peak and average power levels must be expressed in the same logarithmic units (*e.g.*, dBm). Determine the PAPR from:
PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).

Test Setup



Limits

According to the Sec. 22.913(d), The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.4 dB.

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Test Results

Mode	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
WCDMA Band V (RMC)	4132	826.4	26.26	23.15	3.11	≤13	PASS
	4183	836.6	26.39	23.27	3.12	≤13	PASS
	4233	846.6	25.70	22.58	3.12	≤13	PASS

LTE Band 5								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	20407	824.7	28.07	22.47	5.60	≤13	PASS
		20525	836.5	28.44	22.66	5.78	≤13	PASS
		20643	848.3	27.52	21.58	5.94	≤13	PASS
	3	20415	825.5	28.16	22.42	5.74	≤13	PASS
		20525	836.5	28.31	22.58	5.73	≤13	PASS
		20635	847.5	27.70	21.79	5.91	≤13	PASS
	5	20425	826.5	28.14	22.38	5.76	≤13	PASS
		20525	836.5	28.44	22.62	5.82	≤13	PASS
		20625	846.5	27.84	22.01	5.83	≤13	PASS
	10	20450	829	28.15	22.37	5.78	≤13	PASS
		20525	836.5	28.41	22.67	5.74	≤13	PASS
		20600	844	27.87	22.21	5.66	≤13	PASS
16QAM	1.4	20407	824.7	27.84	21.59	6.25	≤13	PASS
		20525	836.5	28.57	21.95	6.62	≤13	PASS
		20643	848.3	27.45	20.70	6.75	≤13	PASS
	3	20415	825.5	28.04	21.52	6.52	≤13	PASS
		20525	836.5	28.50	21.87	6.63	≤13	PASS
		20635	847.5	27.61	20.91	6.70	≤13	PASS
	5	20425	826.5	27.96	21.51	6.45	≤13	PASS
		20525	836.5	28.39	21.85	6.54	≤13	PASS
		20625	846.5	27.68	21.11	6.57	≤13	PASS
	10	20450	829	27.99	21.47	6.52	≤13	PASS
		20525	836.5	28.45	21.93	6.52	≤13	PASS
		20600	844	27.78	21.31	6.47	≤13	PASS

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5.5. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size,

(1) With all power removed, the temperature was decreased to 0°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

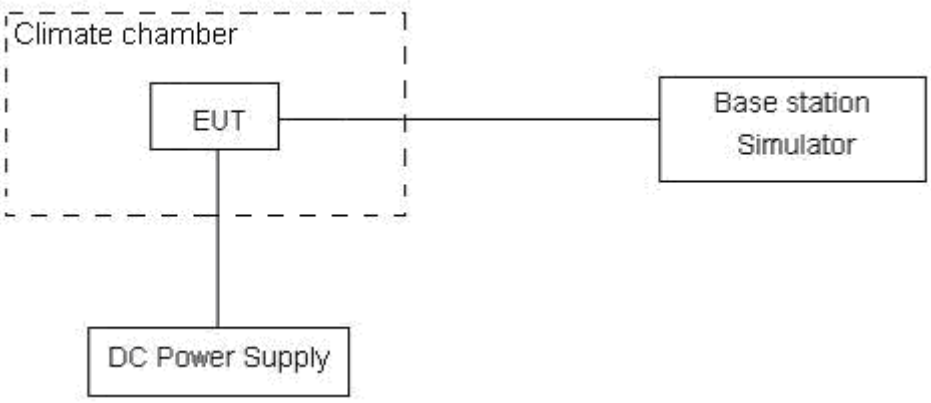
(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements. Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.4 V and 4.5 V, with a nominal voltage of 3.8V.

Test setup



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Limits

According to the Sec. 22.355, the frequency stability of the carrier shall be accurate to within 2.5 ppm of the received frequency for mobile stations.

Limits	≤ 2.5 ppm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75％ confidence level for the normal distribution is with the coverage factor *k* = 3, *U*= 0.01ppm.

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Test Result

WCDMA Band V						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
Temperature	Voltage	BPSK	QPSK	BPSK	QPSK	
Normal（25℃）	Normal	11.80	6.24	0.00628	0.00332	PASS
Extreme（50℃）		17.57	2.30	0.00934	0.00122	PASS
Extreme（40℃）		3.57	7.70	0.00190	0.00410	PASS
Extreme（30℃）		15.40	14.15	0.00819	0.00753	PASS
Extreme（20℃）		1.10	14.21	0.00058	0.00756	PASS
Extreme（10℃）		8.02	11.99	0.00426	0.00638	PASS
Extreme（0℃）		17.37	16.75	0.00924	0.00891	PASS
Extreme（-10℃）		16.53	14.41	0.00879	0.00767	PASS
Extreme（-20℃）		6.32	4.78	0.00336	0.00254	PASS
Extreme（-30℃）		15.41	2.66	0.00820	0.00142	PASS
25℃	LV	12.34	3.44	0.00656	0.00183	PASS
	HV	1.01	2.82	0.00054	0.00150	PASS

LTE Band 4						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	1.4MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	16.84	15.88	0.00896	0.00845	PASS
Extreme（50℃）		11.64	11.18	0.00619	0.00595	PASS
Extreme（40℃）		7.16	14.04	0.00381	0.00747	PASS
Extreme（30℃）		1.18	17.54	0.00063	0.00933	PASS
Extreme（20℃）		5.25	7.10	0.00279	0.00378	PASS
Extreme（10℃）		12.92	5.86	0.00687	0.00312	PASS
Extreme（0℃）		15.54	7.07	0.00827	0.00376	PASS
Extreme（-10℃）		1.21	7.41	0.00064	0.00394	PASS
Extreme（-20℃）		13.99	2.66	0.00744	0.00141	PASS
Extreme（-30℃）		8.99	1.69	0.00478	0.00090	PASS
25℃	LV	5.65	8.67	0.00301	0.00461	PASS
	HV	13.82	5.66	0.00735	0.00301	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	3MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	

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Normal（25℃）	Normal	3.28	12.74	0.00174	0.00678	PASS
Extreme（50℃）		6.80	14.78	0.00362	0.00786	PASS
Extreme（40℃）		11.20	5.65	0.00596	0.00300	PASS
Extreme（30℃）		17.97	10.47	0.00956	0.00557	PASS
Extreme（20℃）		13.85	9.71	0.00737	0.00516	PASS
Extreme（10℃）		10.25	7.11	0.00545	0.00378	PASS
Extreme（0℃）		10.42	6.95	0.00554	0.00370	PASS
Extreme（-10℃）		2.01	11.60	0.00107	0.00617	PASS
Extreme（-20℃）		15.03	10.74	0.00800	0.00571	PASS
Extreme（-30℃）		13.67	11.73	0.00727	0.00624	PASS
25℃	LV	12.76	10.04	0.00679	0.00534	PASS
	HV	6.24	8.97	0.00332	0.00477	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	4.97	14.38	0.00264	0.00765	PASS
Extreme（50℃）		9.76	4.04	0.00519	0.00215	PASS
Extreme（40℃）		5.41	16.72	0.00288	0.00890	PASS
Extreme（30℃）		4.11	1.66	0.00219	0.00088	PASS
Extreme（20℃）		16.56	13.76	0.00881	0.00732	PASS
Extreme（10℃）		16.95	10.31	0.00901	0.00548	PASS
Extreme（0℃）		4.37	2.21	0.00233	0.00118	PASS
Extreme（-10℃）		9.62	3.92	0.00512	0.00209	PASS
Extreme（-20℃）		2.68	9.80	0.00142	0.00521	PASS
Extreme（-30℃）		2.54	11.24	0.00135	0.00598	PASS
25℃	LV	14.66	12.15	0.00780	0.00646	PASS
	HV	8.01	14.30	0.00426	0.00761	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	1.45	6.06	0.00077	0.00322	PASS
Extreme（50℃）		15.87	6.23	0.00844	0.00331	PASS
Extreme（40℃）		10.04	13.49	0.00534	0.00717	PASS
Extreme（30℃）		5.69	14.51	0.00303	0.00772	PASS
Extreme（20℃）		6.30	13.94	0.00335	0.00741	PASS
Extreme（10℃）		16.20	14.23	0.00862	0.00757	PASS
Extreme（0℃）		13.06	7.08	0.00695	0.00377	PASS
Extreme（-10℃）		10.13	1.38	0.00539	0.00073	PASS
Extreme（-20℃）		5.05	17.42	0.00269	0.00927	PASS

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Extreme（-30℃）		3.94	7.26	0.00210	0.00386	PASS
25℃	LV	3.06	5.00	0.00163	0.00266	PASS
	HV	15.23	9.63	0.00810	0.00512	PASS

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5.6. Spurious Emissions at Antenna Terminals

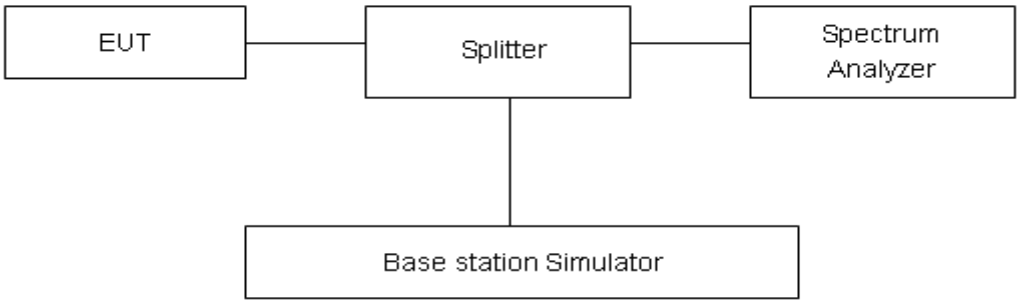
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.
RBW is set to 1 kHz (0.009MHz~0.15 MHz),
RBW is set to 10 kHz (0.15 MHz~30 MHz),
RBW is set to 100 kHz (30MHz~1000 MHz),
RBW is set to 1000 kHz (above 1000MHz),
Sweep is set to ATUO.
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 22.917(a) specifies that “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.”

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-18GHz	1.407 dB

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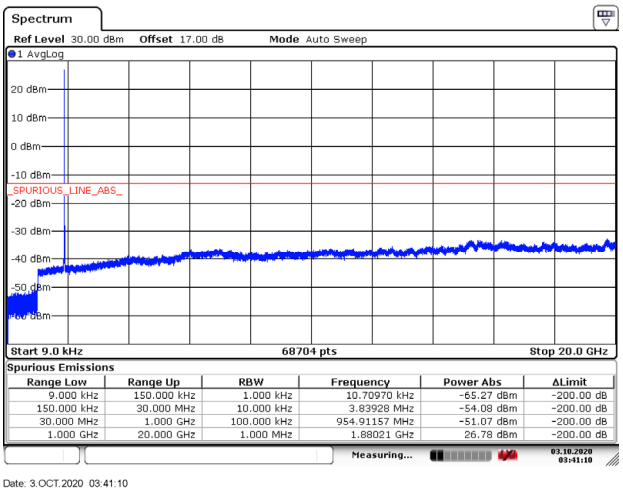
Test Result

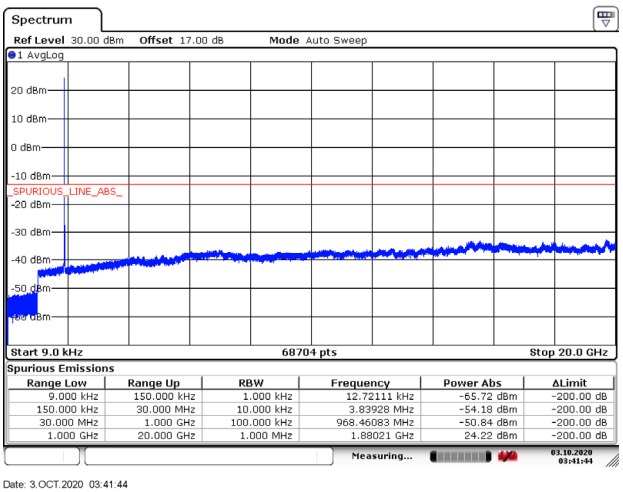
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

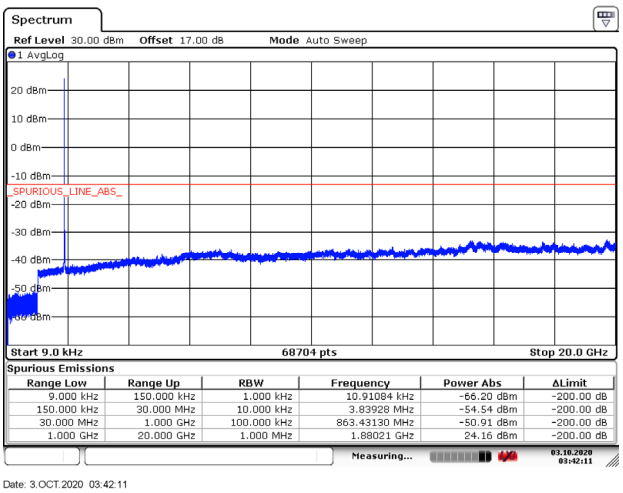
WCDMA BAND V CH-Low 9kHz ~ 9GHz



WCDMA BAND V CH-Middle 9kHz ~ 9GHz



WCDMA BAND V CH-High 9kHz ~ 9GHz



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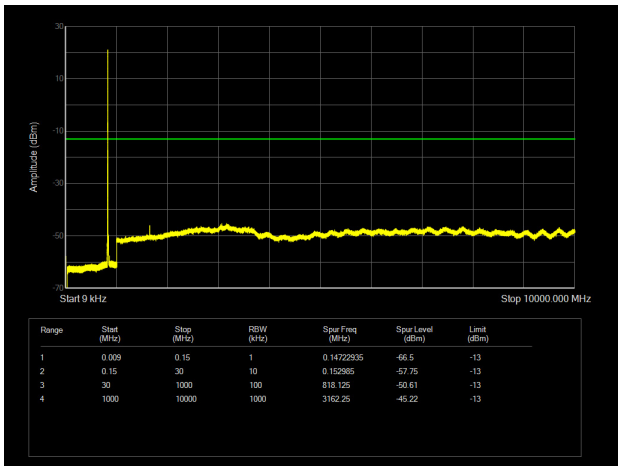
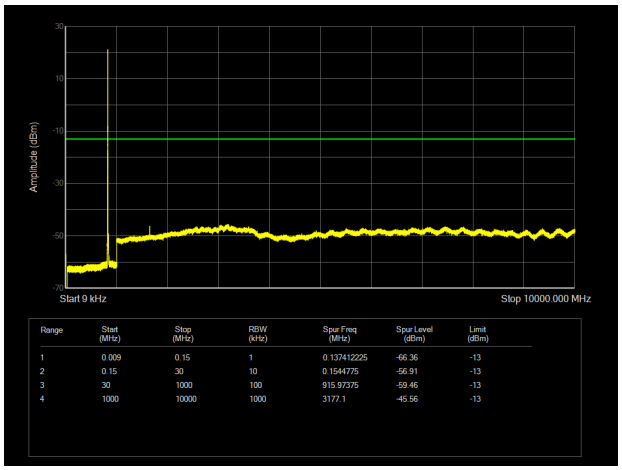
LTE Band 5 1.4MHz CH-Low 9kHz~10GHz



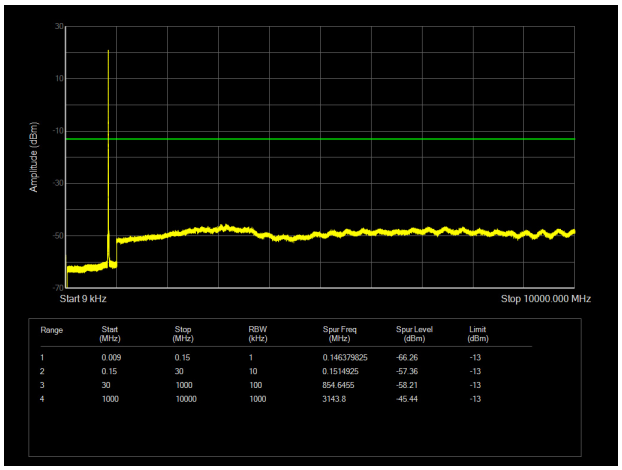
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.14722935	-66.5	-13
2	0.15	30	10	0.152985	-57.75	-13
3	30	1000	100	818.125	-50.61	-13
4	1000	10000	1000	3162.25	-45.22	-13

LTE Band 5 3MHz CH-Low 9kHz~10GHz



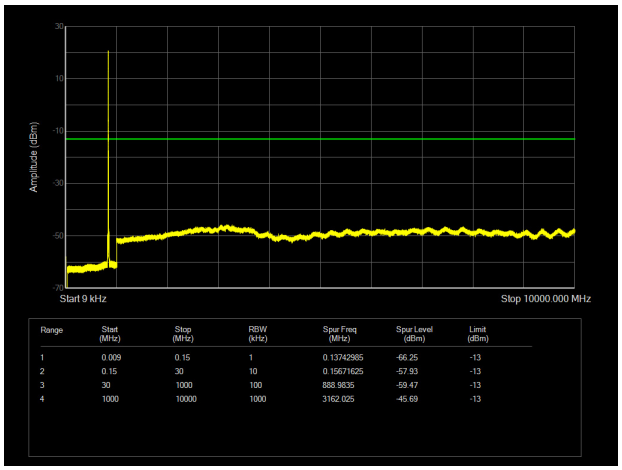
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.137412225	-66.36	-13
2	0.15	30	10	0.1544775	-56.91	-13
3	30	1000	100	915.97375	-59.46	-13
4	1000	10000	1000	3177.1	-45.56	-13

LTE Band 5 1.4MHz CH-Middle 9kHz~10GHz



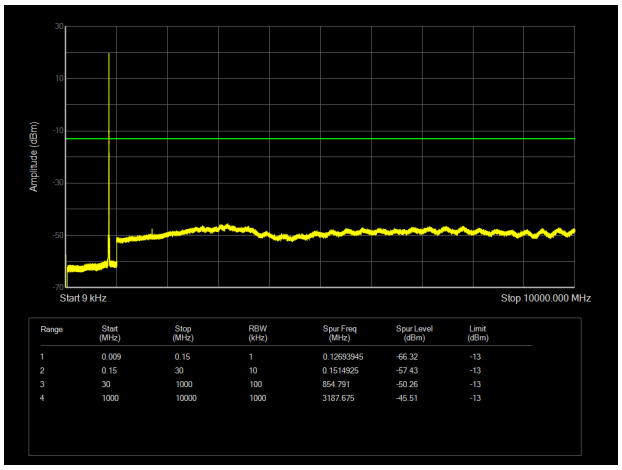
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.146378625	-66.26	-13
2	0.15	30	10	0.1514925	-57.36	-13
3	30	1000	100	854.6455	-58.21	-13
4	1000	10000	1000	3143.8	-45.44	-13

LTE Band 5 3MHz CH-Middle 9kHz~10GHz



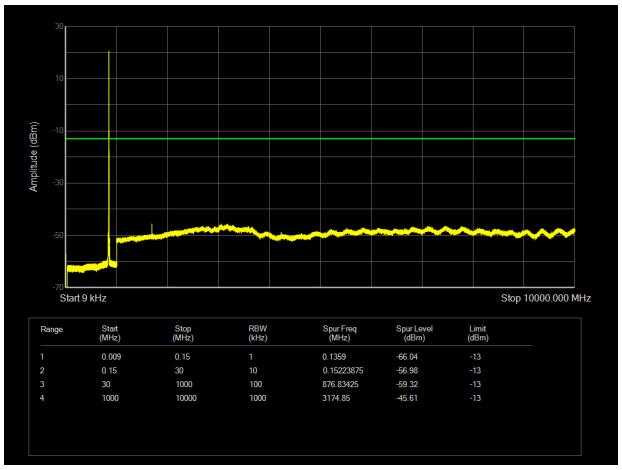
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.13742985	-66.25	-13
2	0.15	30	10	0.15671625	-57.93	-13
3	30	1000	100	888.9835	-59.47	-13
4	1000	10000	1000	3162.025	-45.69	-13

LTE Band 5 1.4MHz CH-High 9kHz~10GHz



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.12693945	-66.32	-13
2	0.15	30	10	0.1514925	-57.43	-13
3	30	1000	100	854.791	-50.26	-13
4	1000	10000	1000	3187.675	-45.51	-13

LTE Band 5 3MHz CH-High 9kHz~10GHz



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.1359	-66.04	-13
2	0.15	30	10	0.15223875	-56.98	-13
3	30	1000	100	876.83425	-59.32	-13
4	1000	10000	1000	3174.85	-45.61	-13

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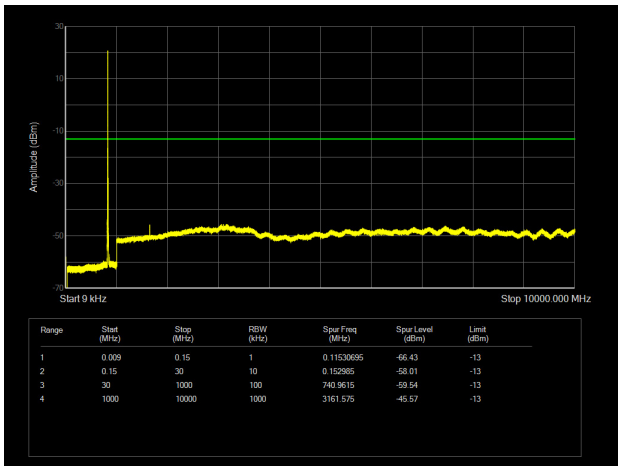
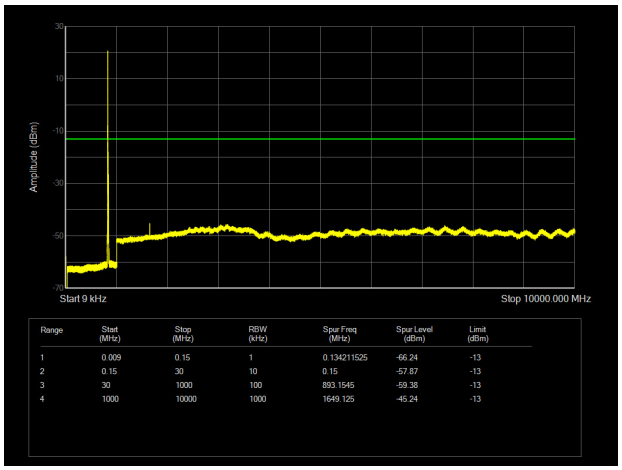
LTE Band 5 5MHz CH-Low 9kHz~10GHz



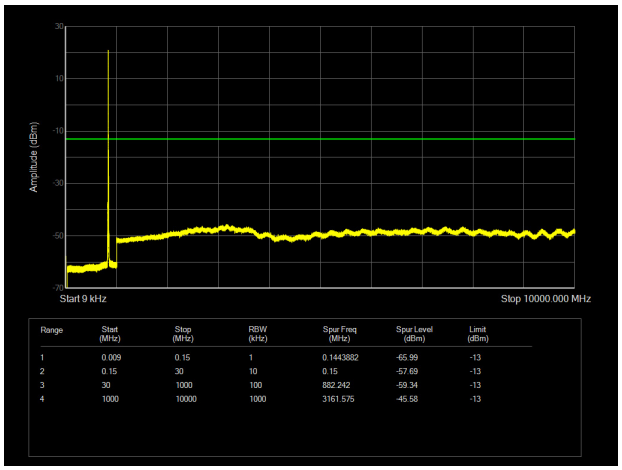
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.11530695	-66.43	-13
2	0.15	30	10	0.152985	-58.01	-13
3	30	1000	100	740.9615	-59.54	-13
4	1000	10000	1000	3161.575	-45.57	-13

LTE Band 5 10MHz CH-Low 9kHz~10GHz



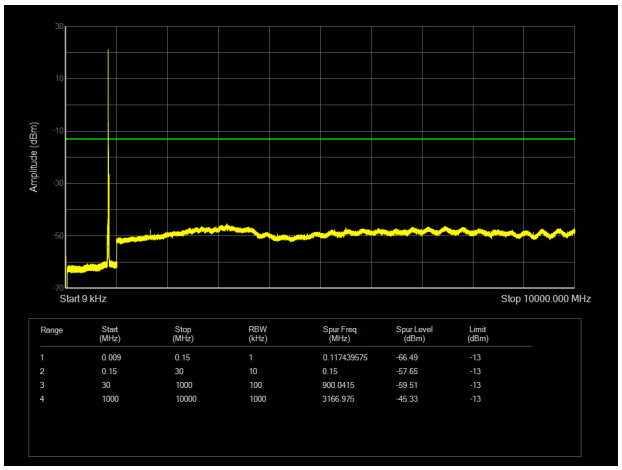
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.134211525	-66.24	-13
2	0.15	30	10	0.15	-57.87	-13
3	30	1000	100	893.1545	-59.38	-13
4	1000	10000	1000	1649.125	-45.24	-13

LTE Band 5 5MHz CH-Middle 9kHz~10GHz



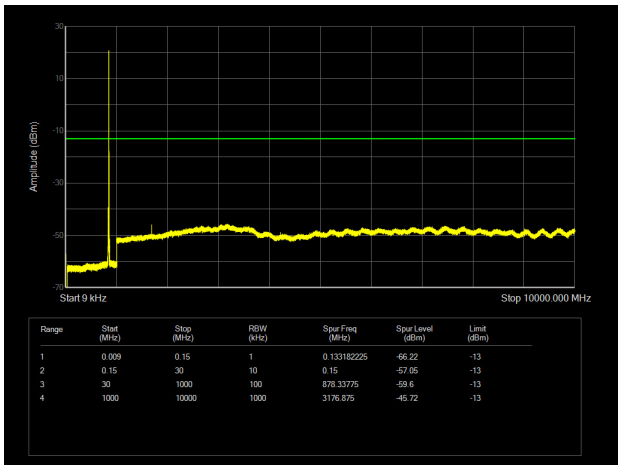
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.1443882	-65.99	-13
2	0.15	30	10	0.15	-57.69	-13
3	30	1000	100	882.242	-59.34	-13
4	1000	10000	1000	3161.575	-45.58	-13

LTE Band 5 10MHz CH-Middle 9kHz~10GHz



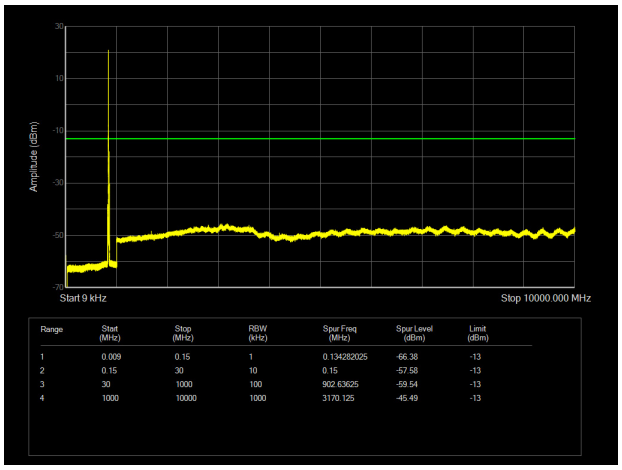
Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.117439575	-66.49	-13
2	0.15	30	10	0.15	-57.65	-13
3	30	1000	100	900.0415	-59.51	-13
4	1000	10000	1000	3166.975	-45.33	-13

LTE Band 5 5MHz CH-High 9kHz~10GHz



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.133182225	-66.22	-13
2	0.15	30	10	0.15	-57.05	-13
3	30	1000	100	878.33775	-59.6	-13
4	1000	10000	1000	3176.875	-45.72	-13

LTE Band 5 10MHz CH-High 9kHz~10GHz



Range	Start (MHz)	Stop (MHz)	RBW (kHz)	Spur Freq (MHz)	Spur Level (dBm)	Limit (dBm)
1	0.009	0.15	1	0.134282025	-66.38	-13
2	0.15	30	10	0.15	-57.58	-13
3	30	1000	100	902.63625	-59.54	-13
4	1000	10000	1000	3170.125	-45.49	-13

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5.7. Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz-150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz , RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi)

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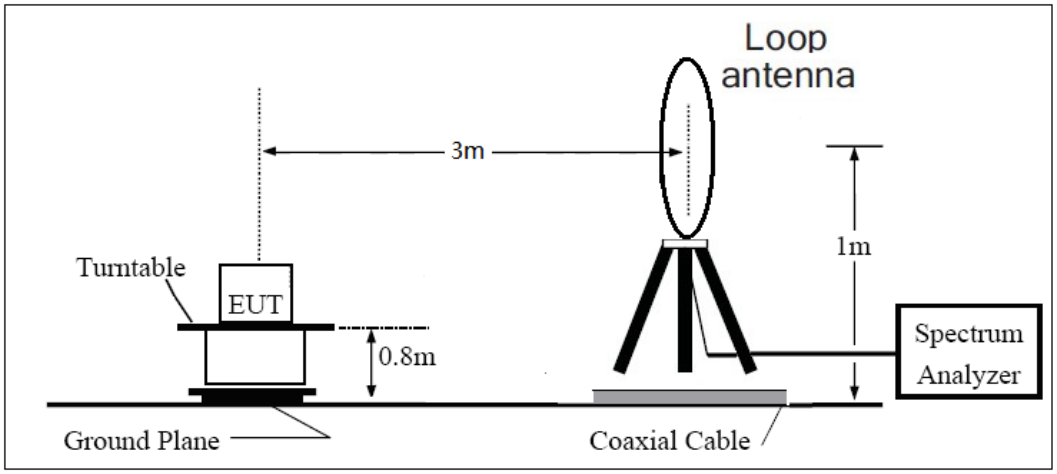
and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

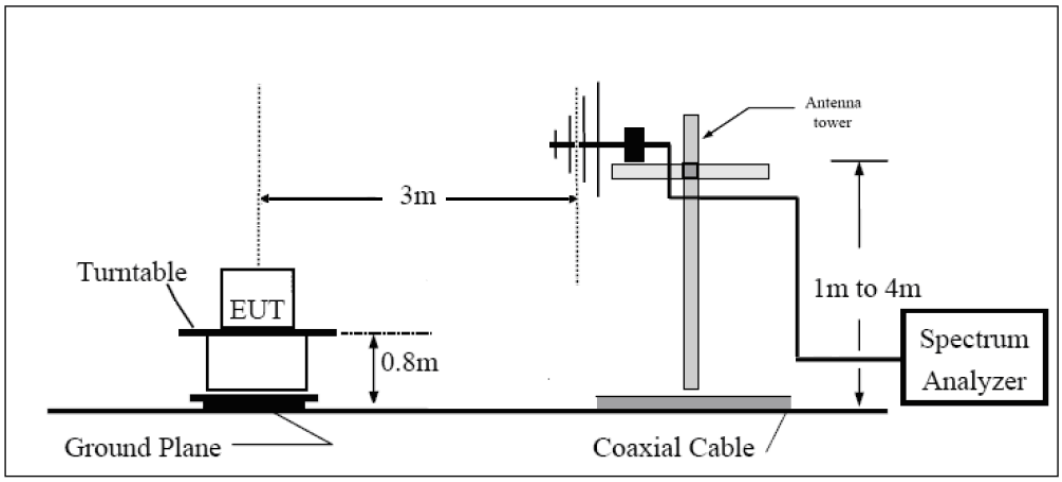
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

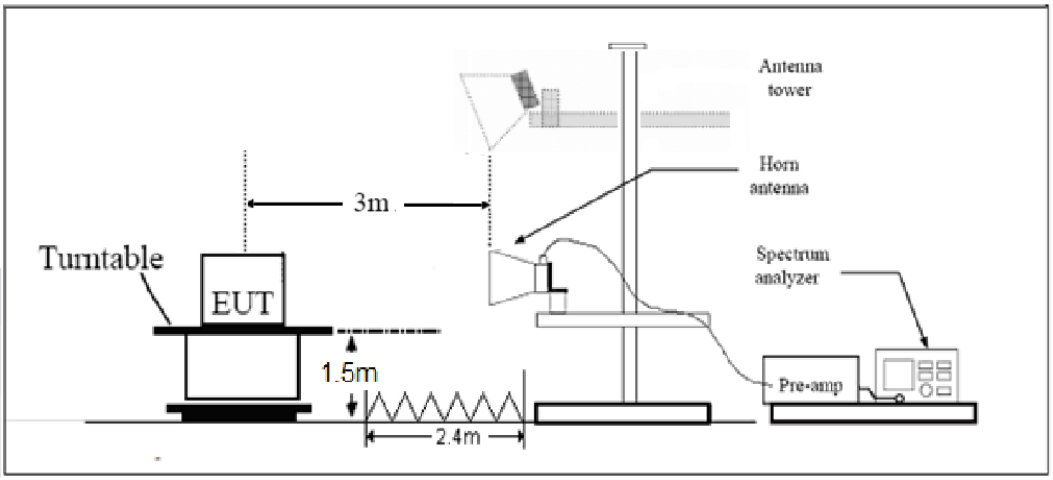
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



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Note: Area side:2.4mX3.6m

Limits

Rule Part 22.917(a) specifies that "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."

Limit	-13 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95％ confidence level for the normal distribution is with the coverage factor *k* = 1.96, *U*= 3.55 dB.

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Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

EC200T-AU

WCDMA Band V CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.2	-61.35	2.00	10.75	Horizontal	-54.75	-13.00	41.75	0
3	2509.8	-61.64	2.51	11.05	Horizontal	-55.25	-13.00	42.25	225
4	3346.4	-59.08	4.20	11.15	Horizontal	-54.28	-13.00	41.28	315
5	4183.0	-56.02	5.20	11.15	Horizontal	-52.22	-13.00	39.22	45
6	5019.6	-55.25	5.50	11.95	Horizontal	-50.95	-13.00	37.95	270
7	5856.2	-57.29	5.70	13.55	Horizontal	-51.59	-13.00	38.59	180
8	6692.8	-57.92	6.30	13.75	Horizontal	-52.62	-13.00	39.62	0
9	7529.4	-53.93	6.80	13.85	Horizontal	-49.03	-13.00	36.03	45
10	8366.0	-54.62	6.90	14.25	Horizontal	-49.42	-13.00	36.42	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

LTE Band 5 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.0	-66.99	2.00	10.75	Horizontal	-60.39	-13.00	47.39	135
3	2509.5	-66.84	2.51	11.05	Horizontal	-60.45	-13.00	47.45	135
4	3346.0	-53.35	4.20	11.15	Horizontal	-48.55	-13.00	35.55	90
5	4182.5	-51.55	5.20	11.15	Horizontal	-47.75	-13.00	34.75	45
6	5019.0	-54.68	5.50	11.95	Horizontal	-50.38	-13.00	37.38	315
7	5855.5	-57.23	5.70	13.55	Horizontal	-51.53	-13.00	38.53	180
8	6692.0	-57.69	6.30	13.75	Horizontal	-52.39	-13.00	39.39	180
9	7528.5	-53.72	6.80	13.85	Horizontal	-48.82	-13.00	35.82	45
10	8365.0	-53.66	6.90	14.25	Horizontal	-48.46	-13.00	35.46	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

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LTE Band 5 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1668.6	-65.79	2.00	10.75	Horizontal	-59.19	-13.00	46.19	45
3	2503.3	-69.38	2.51	11.05	Horizontal	-62.99	-13.00	49.99	270
4	3466.2	-53.62	4.20	11.15	Horizontal	-48.82	-13.00	35.82	270
5	4215.9	-50.52	5.20	11.15	Horizontal	-46.72	-13.00	33.72	90
6	5165.6	-55.97	5.50	11.95	Horizontal	-51.67	-13.00	38.67	315
7	5815.3	-57.36	5.70	13.55	Horizontal	-51.66	-13.00	38.66	45
8	6765.0	-58.30	6.30	13.75	Horizontal	-53.00	-13.00	40.00	45
9	7614.7	-53.63	6.80	13.85	Horizontal	-48.73	-13.00	35.73	315
10	8464.4	-53.53	6.90	14.25	Horizontal	-48.33	-13.00	35.33	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2.The worst emission was found in the antenna is Horizontal position.									

LTE Band 5 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1664.4	-65.25	2.00	10.75	Horizontal	-58.65	-13.00	45.65	90
3	2496.6	-72.11	2.51	11.05	Horizontal	-65.72	-13.00	52.72	315
4	3346.0	-54.24	4.20	11.15	Horizontal	-49.44	-13.00	36.44	180
5	4182.5	-52.19	5.20	11.15	Horizontal	-48.39	-13.00	35.39	90
6	5019.0	-54.25	5.50	11.95	Horizontal	-49.95	-13.00	36.95	90
7	5855.5	-56.86	5.70	13.55	Horizontal	-51.16	-13.00	38.16	315
8	6692.0	-57.29	6.30	13.75	Horizontal	-51.99	-13.00	38.99	45
9	7528.5	-53.57	6.80	13.85	Horizontal	-48.67	-13.00	35.67	315
10	8365.0	-53.56	6.90	14.25	Horizontal	-48.36	-13.00	35.36	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2.The worst emission was found in the antenna is Horizontal position.									

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EC200T-AU MINIPCIE

WCDMA Band V CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.2	-59.75	2.00	10.75	Horizontal	-53.15	-13.00	40.15	45
3	2509.8	-50.80	2.51	11.05	Horizontal	-44.41	-13.00	31.41	225
4	3346.4	-57.68	4.20	11.15	Horizontal	-52.88	-13.00	39.88	180
5	4183.0	-54.96	5.20	11.15	Horizontal	-51.16	-13.00	38.16	45
6	5019.6	-54.75	5.50	11.95	Horizontal	-50.45	-13.00	37.45	0
7	5856.2	-56.73	5.70	13.55	Horizontal	-51.03	-13.00	38.03	180
8	6692.8	-57.46	6.30	13.75	Horizontal	-52.16	-13.00	39.16	0
9	7529.4	-53.41	6.80	13.85	Horizontal	-48.51	-13.00	35.51	45
10	8366.0	-53.63	6.90	14.25	Horizontal	-48.43	-13.00	35.43	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

LTE Band 5 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1671.9	-63.13	2.00	10.75	Horizontal	-56.53	-13.00	43.53	45
3	2507.8	-55.28	2.51	11.05	Horizontal	-48.89	-13.00	35.89	135
4	3346.0	-53.84	4.20	11.15	Horizontal	-49.04	-13.00	36.04	270
5	4182.5	-53.58	5.20	11.15	Horizontal	-49.78	-13.00	36.78	45
6	5019.0	-54.97	5.50	11.95	Horizontal	-50.67	-13.00	37.67	45
7	5855.5	-56.35	5.70	13.55	Horizontal	-50.65	-13.00	37.65	180
8	6692.0	-57.42	6.30	13.75	Horizontal	-52.12	-13.00	39.12	90
9	7528.5	-53.83	6.80	13.85	Horizontal	-48.93	-13.00	35.93	45
10	8365.0	-52.39	6.90	14.25	Horizontal	-47.19	-13.00	34.19	180

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

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LTE Band 5 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1668.6	-63.88	2.00	10.75	Horizontal	-57.28	-13.00	44.28	45
3	2502.9	-55.54	2.51	11.05	Horizontal	-49.15	-13.00	36.15	270
4	3466.2	-53.03	4.20	11.15	Horizontal	-48.23	-13.00	35.23	90
5	4215.9	-50.62	5.20	11.15	Horizontal	-46.82	-13.00	33.82	90
6	5165.6	-55.01	5.50	11.95	Horizontal	-50.71	-13.00	37.71	315
7	5815.3	-57.07	5.70	13.55	Horizontal	-51.37	-13.00	38.37	45
8	6765.0	-57.08	6.30	13.75	Horizontal	-51.78	-13.00	38.78	270
9	7614.7	-53.98	6.80	13.85	Horizontal	-49.08	-13.00	36.08	315
10	8464.4	-52.63	6.90	14.25	Horizontal	-47.43	-13.00	34.43	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

LTE Band 5 10MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3346.0	-55.77	2.00	10.75	Horizontal	-49.17	-13.00	36.17	0
3	4182.5	-51.38	2.51	11.05	Horizontal	-44.99	-13.00	31.99	90
4	5019.0	-55.73	4.20	11.15	Horizontal	-50.93	-13.00	37.93	315
5	5855.5	-55.47	5.20	11.15	Horizontal	-51.67	-13.00	38.67	90
6	6692.0	-57.55	5.50	11.95	Horizontal	-53.25	-13.00	40.25	45
7	7528.5	-55.01	5.70	13.55	Horizontal	-49.31	-13.00	36.31	315
8	8365.0	-54.67	6.30	13.75	Horizontal	-49.37	-13.00	36.37	180
9	3346.0	-54.07	6.80	13.85	Horizontal	-49.17	-13.00	36.17	0
10	4182.5	-50.19	6.90	14.25	Horizontal	-44.99	-13.00	31.99	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2.The worst emission was found in the antenna is Horizontal position.

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6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2020-05-18	2021-05-17
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2020-05-18	2021-05-17
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2020-05-27	2021-05-26
Signal Analyzer	R&S	FSV30	100815	2019-12-15	2020-12-14
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2020-11-17
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
Signal generator	R&S	SMB 100A	102594	2020-05-18	2021-05-17
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preampflier	R&S	SCU18	102327	2020-05-18	2021-05-17
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2020-05-18	2021-05-17
RF Cable	Agilent	SMA 15cm	0001	2020-06-12	2020-12-11
Software	R&S	EMC32	9.26.0	/	/

********END OF REPORT ********

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ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

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