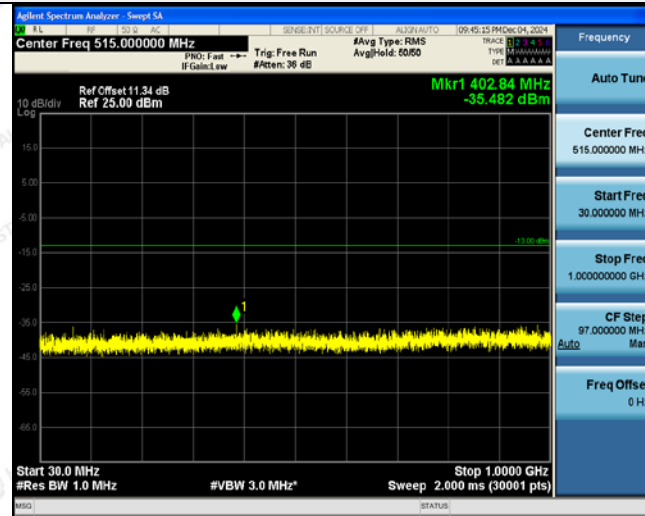
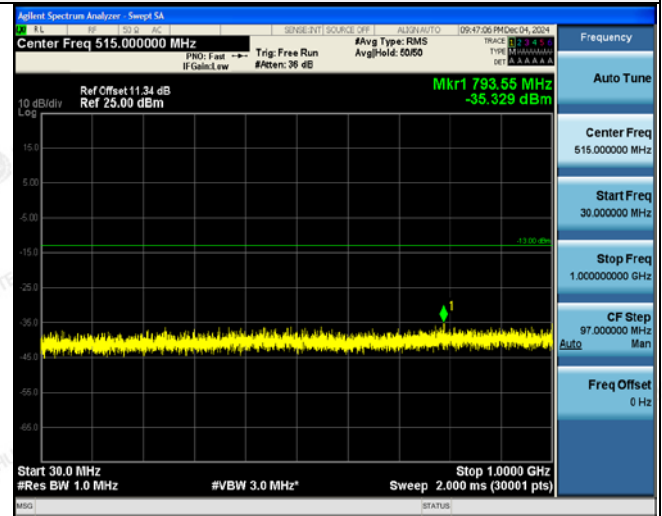


LTE FDD Band 66-QPSK-3.75KHz
Low Channel

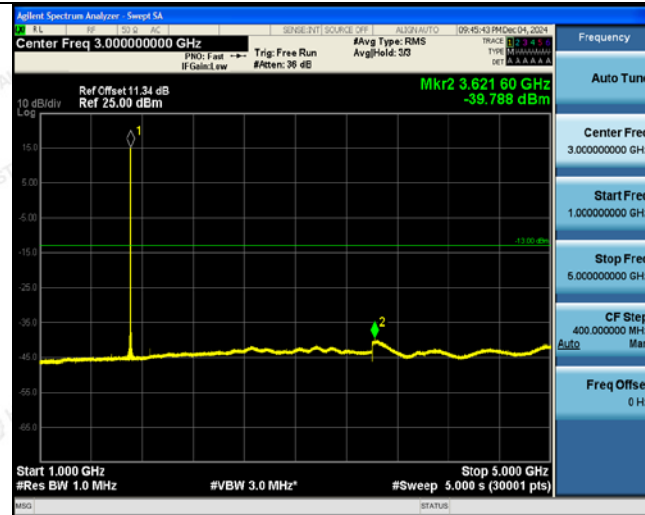
1@0



1@47



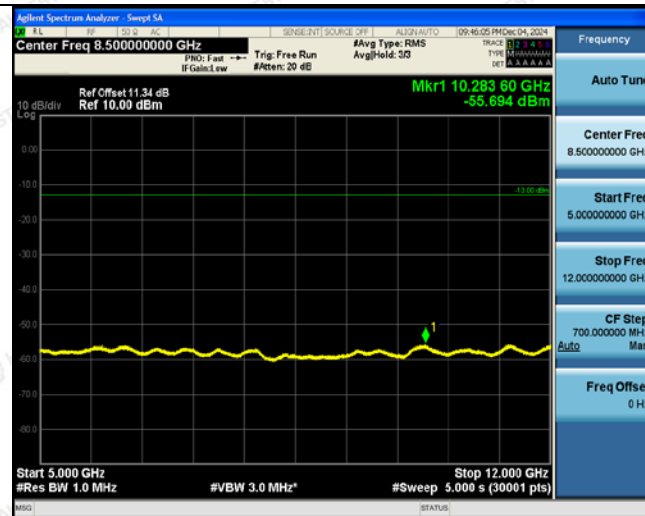
30MHz~1GHz



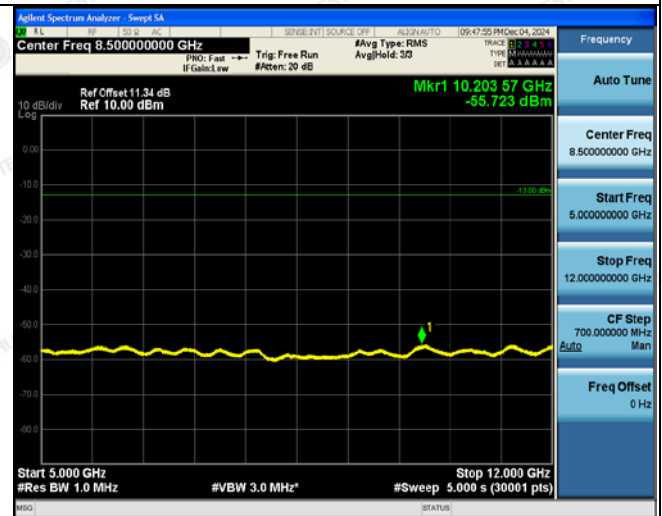
30MHz~1GHz



1GHz ~5GHz

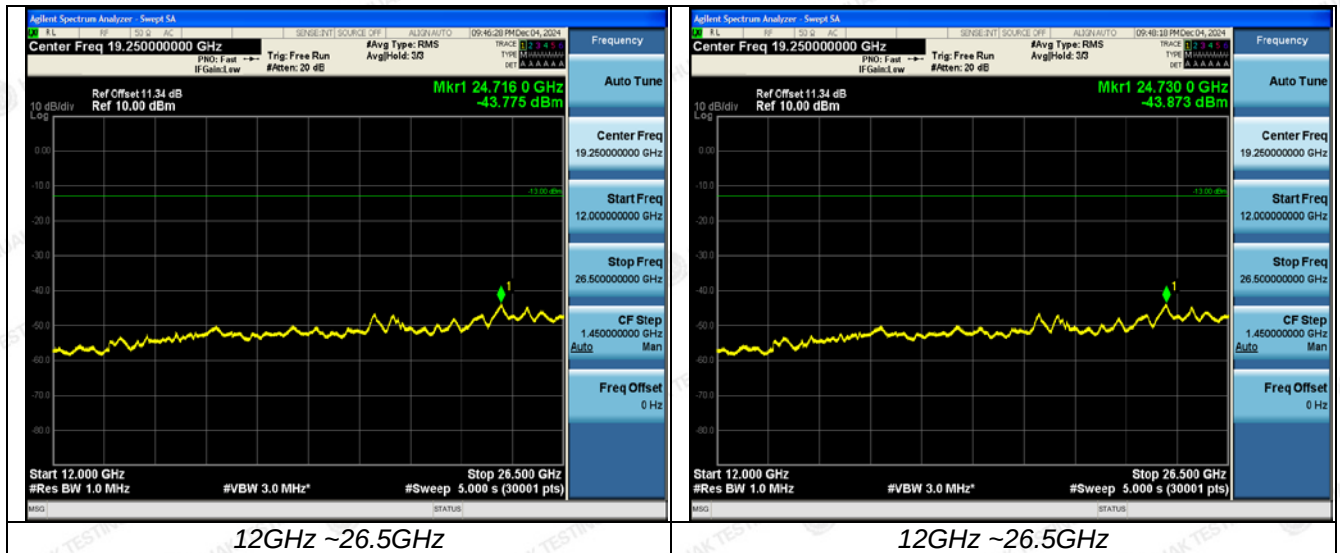


1GHz ~5GHz



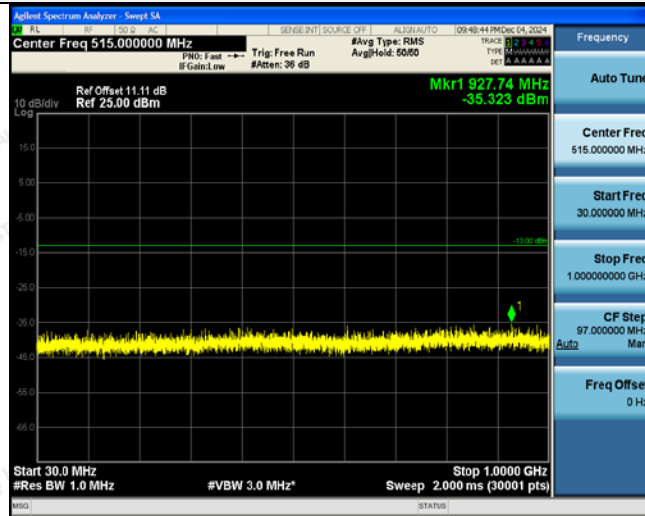
5GHz ~12GHz

5GHz ~12GHz

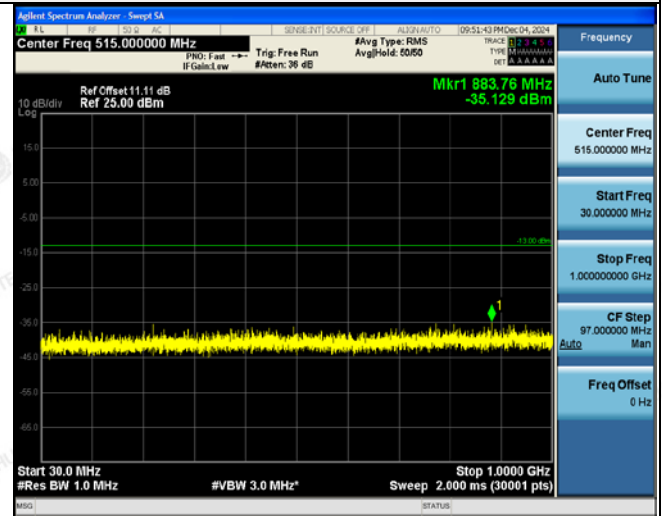


LTE FDD Band 66-QPSK-3.75KHz
Middle Channel

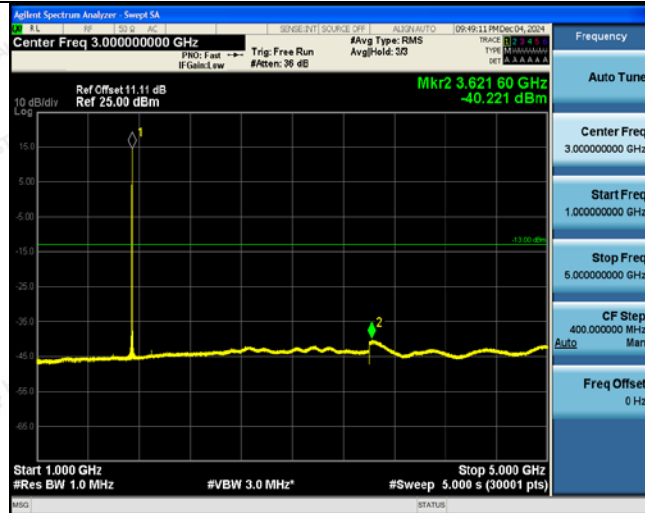
1@0



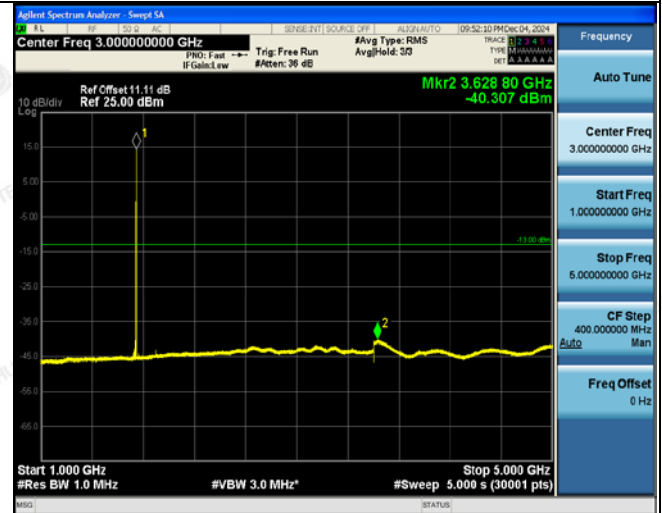
1@47



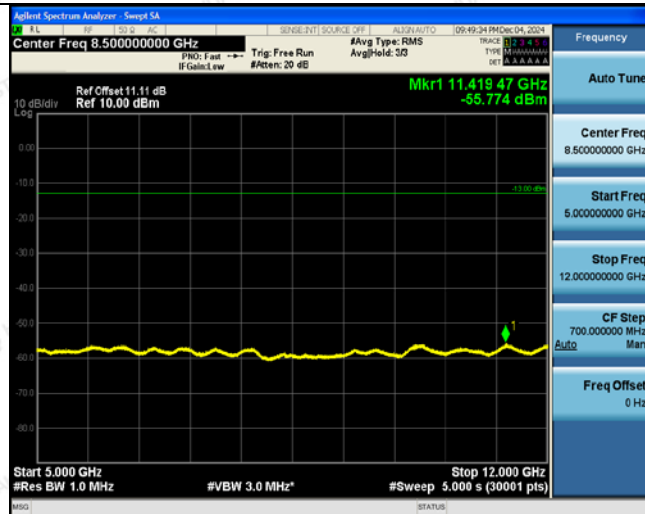
30MHz~1GHz



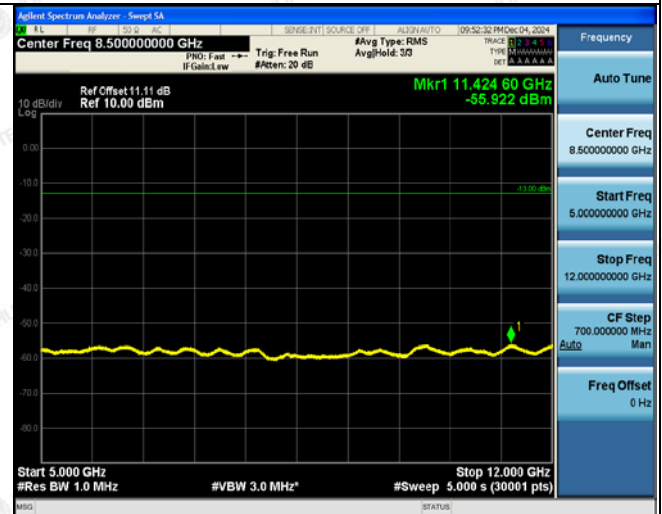
30MHz~1GHz



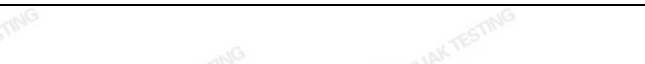
1GHz ~5GHz



1GHz ~5GHz

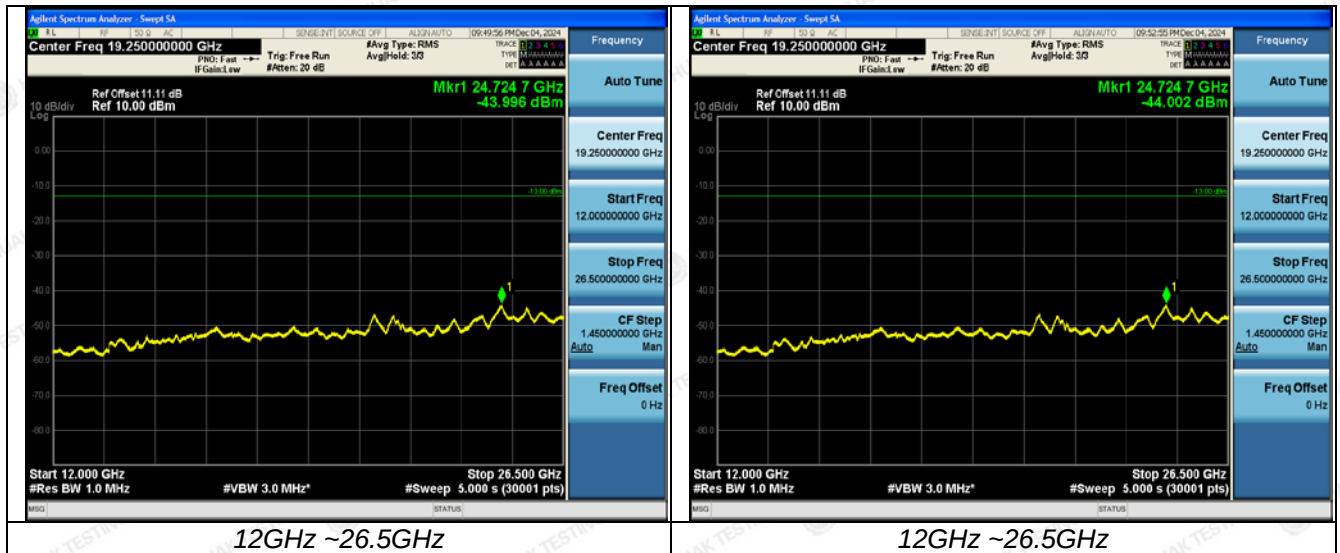


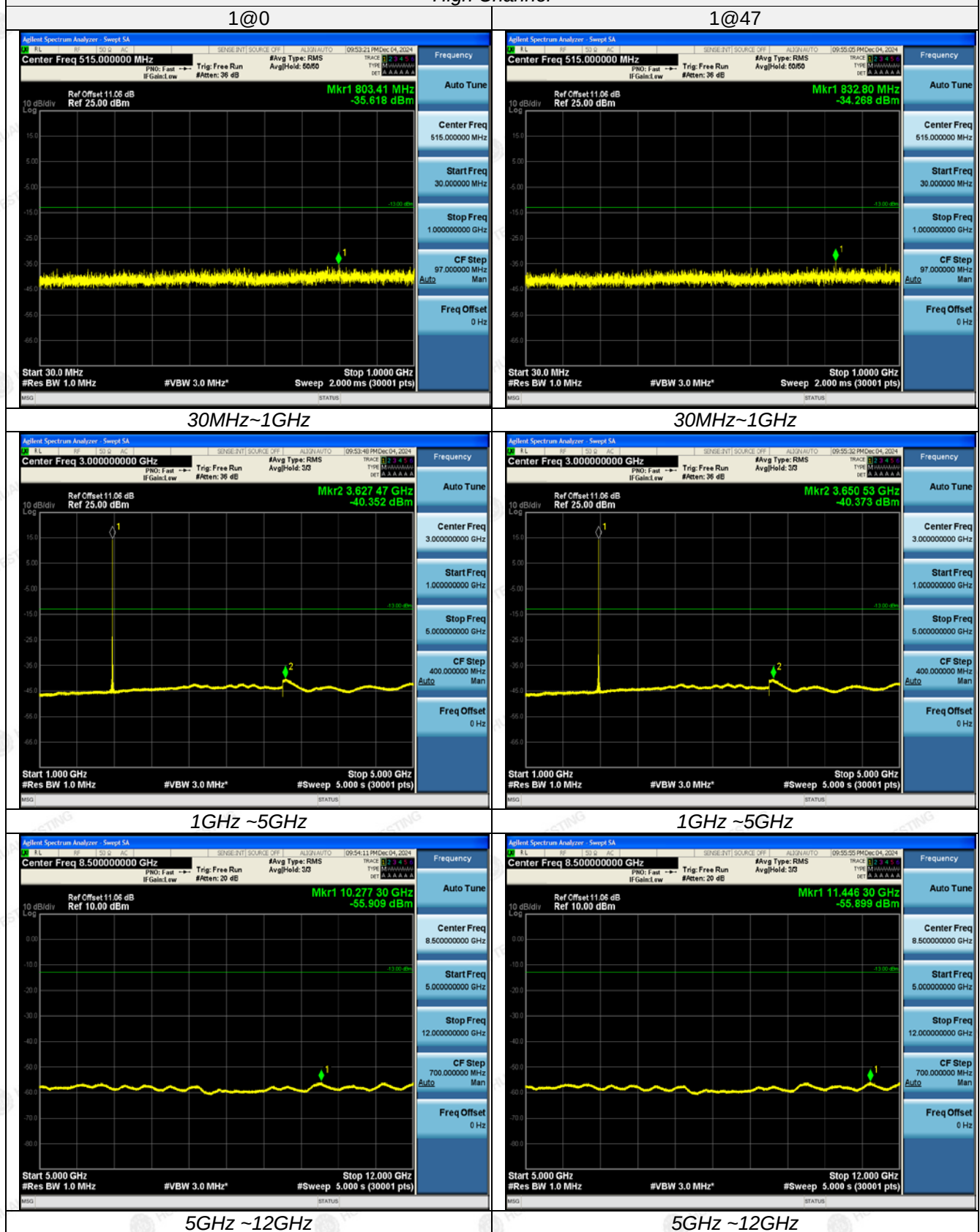
5GHz ~12GHz

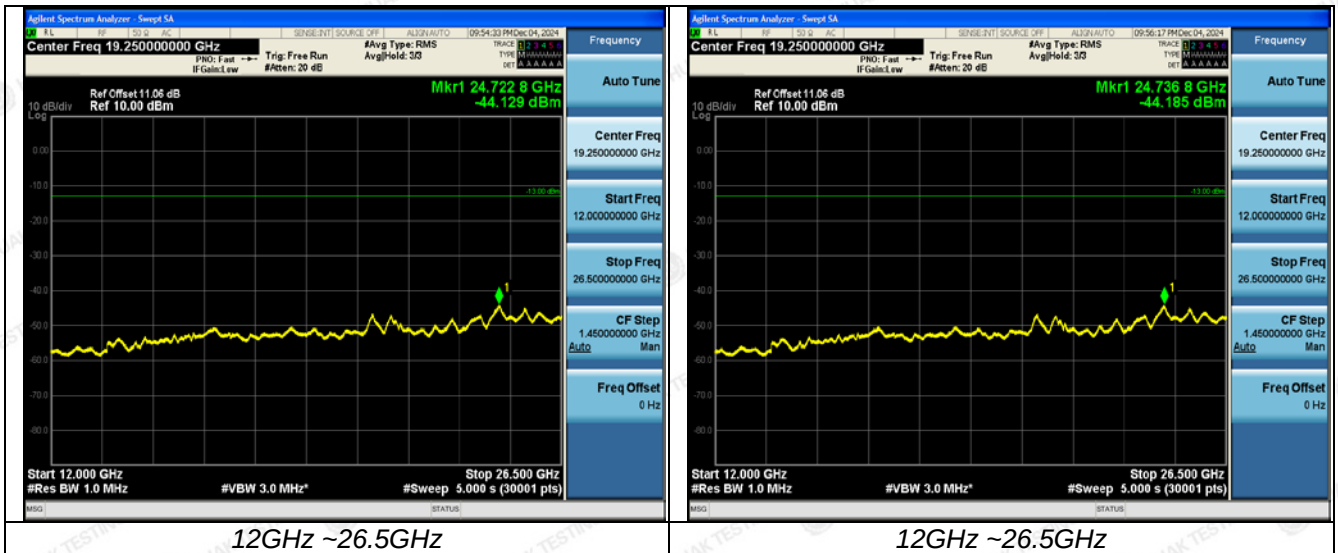


5GHz ~12GHz



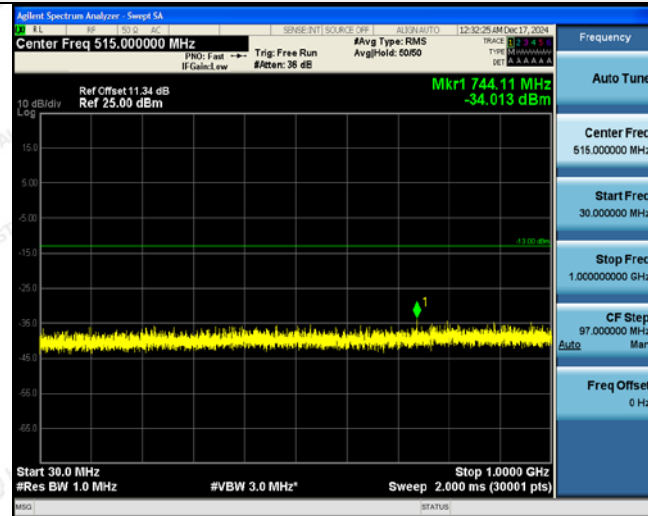
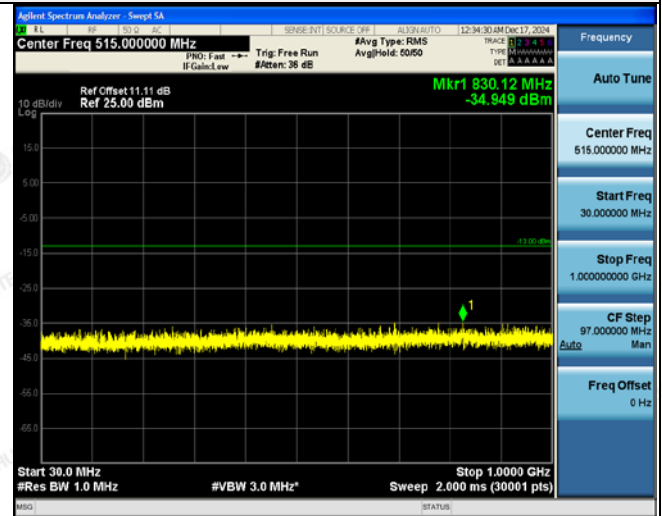


LTE FDD Band 66-QPSK-3.75KHz
High Channel

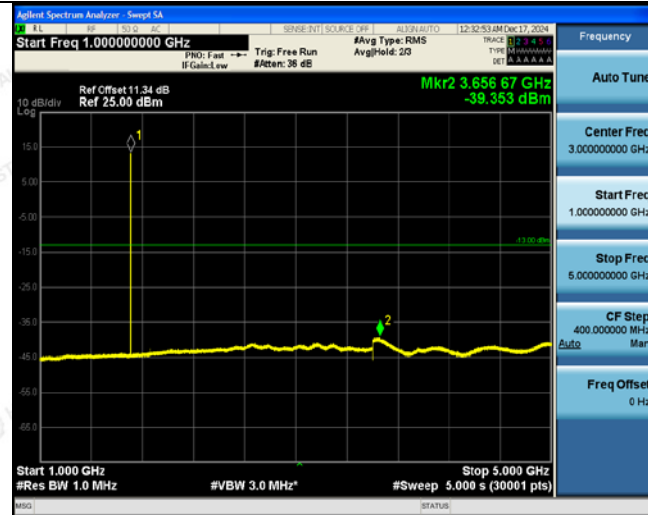




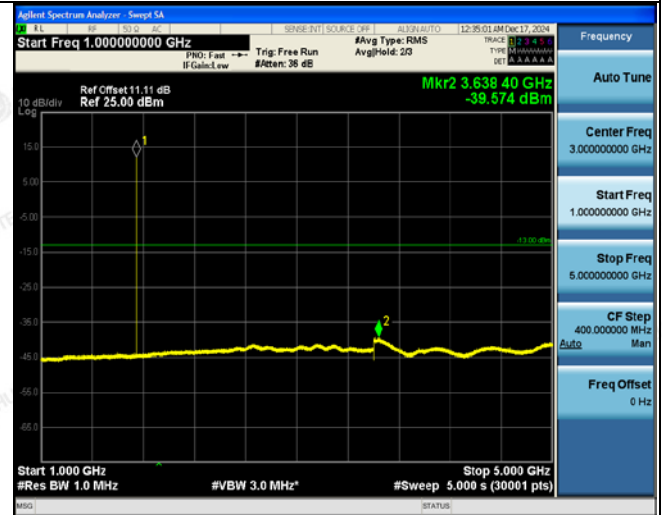
LTE FDD Band 66-QPSK-15KHz

Low Channel
12@0Middle Channel
12@0

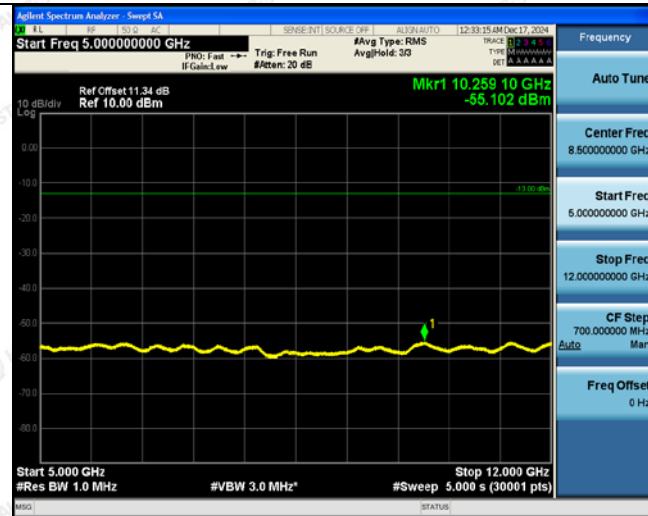
30MHz~1GHz



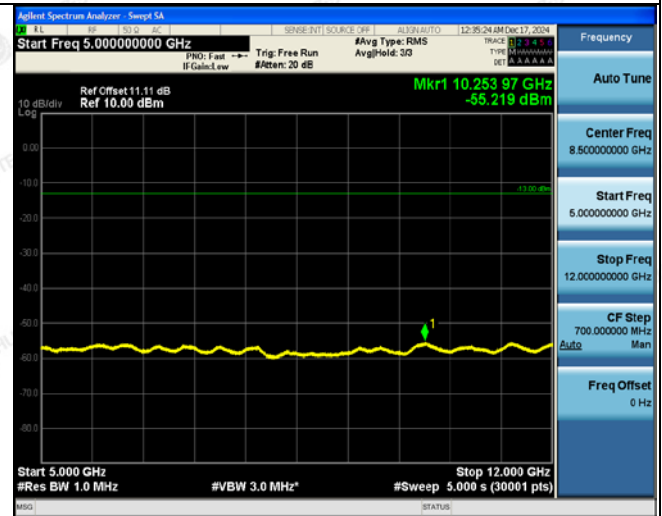
30MHz~1GHz



1GHz ~5GHz

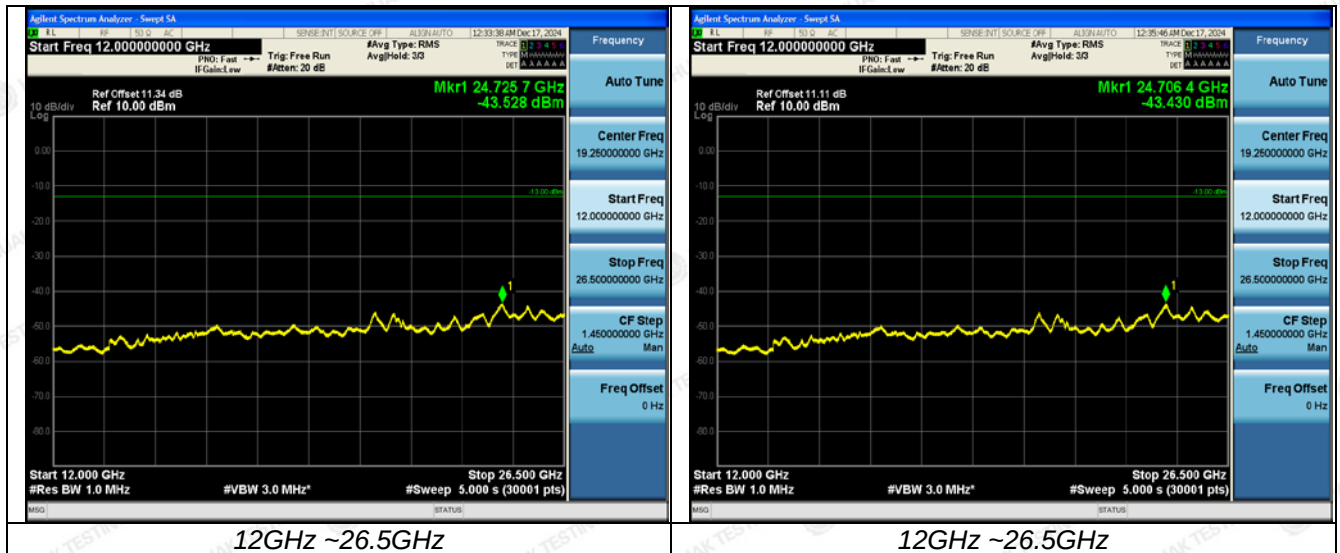


1GHz ~5GHz



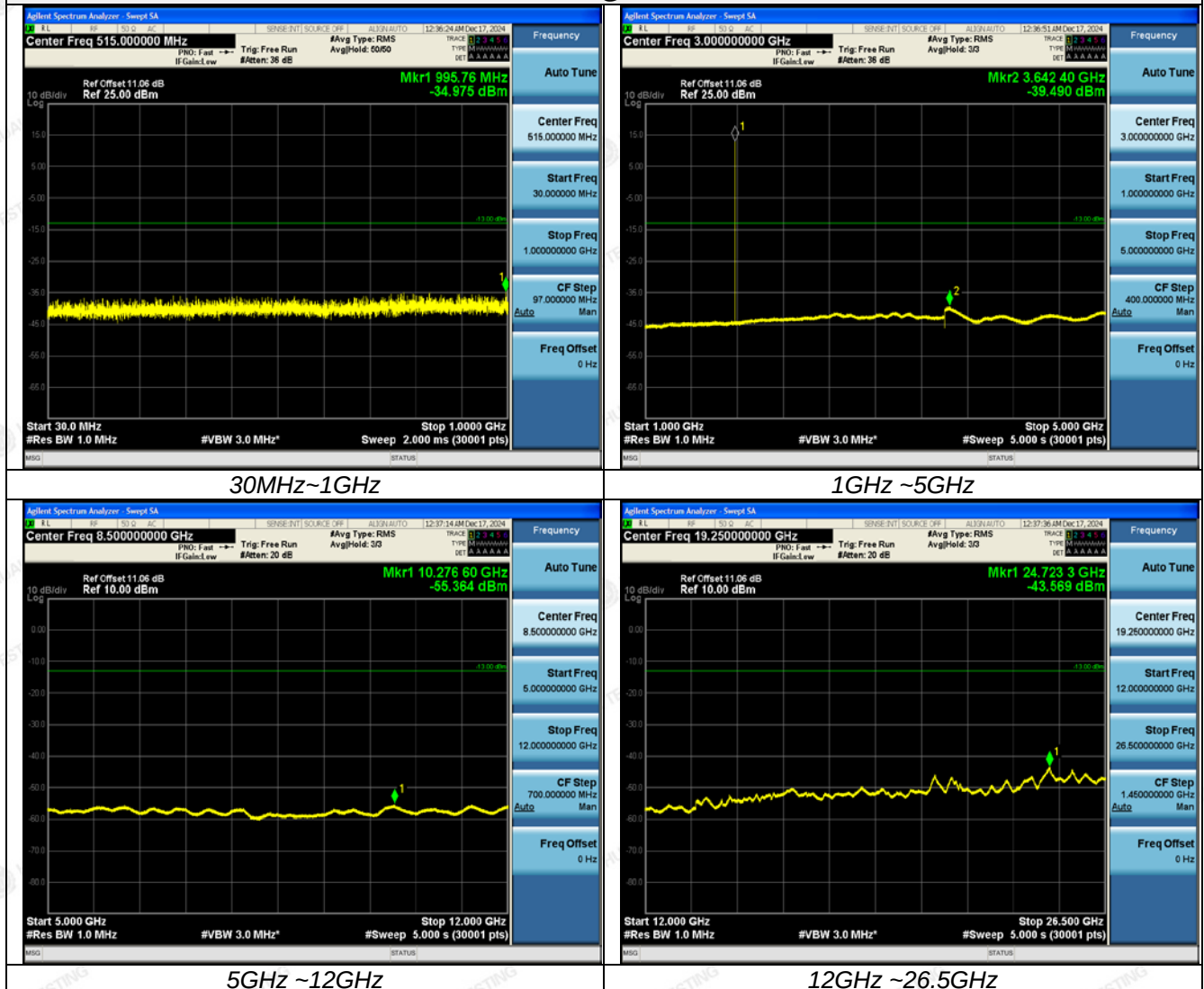
5GHz ~12GHz

5GHz ~12GHz





LTE FDD Band 66-QPSK-15KHz
High Channel
12@0



**Radiated Measurement:****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 66-15KHz-BPSK-Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3420.2	-49.24	4.02	3.00	12.5	-40.76	-13.00	27.76	H
5130.3	-53.34	5.11	3.00	13.38	-45.07	-13.00	32.07	H
3420.2	-58.3	4.02	3.00	12.5	-49.82	-13.00	36.82	V
5130.3	-54.75	5.11	3.00	13.38	-46.48	-13.00	33.48	V

LTE FDD Band 66-15KHz-BPSK-Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-44.28	4.02	3.00	12.45	-35.85	-13.00	22.85	H
5235.0	-48.28	5.11	3.00	13.38	-40.01	-13.00	27.01	H
3490.0	-50.3	4.02	3.00	12.45	-41.87	-13.00	28.87	V
5235.0	-49.12	5.11	3.00	13.38	-40.85	-13.00	27.85	V

LTE FDD Band 66-15KHz-BPSK-High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3559.8	-45.41	4.02	3.00	12.21	-37.22	-13.00	24.22	H
5339.7	-48.69	5.11	3.00	13.26	-40.54	-13.00	27.54	H
3559.8	-50.57	4.02	3.00	12.21	-42.38	-13.00	29.38	V
5339.7	-48.8	5.11	3.00	13.26	-40.65	-13.00	27.65	V

LTE FDD Band 66-15KHz-QPSK-Low Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3420.2	-50.35	4.02	3.00	12.5	-41.87	-13.00	28.87	H
5130.3	-52.72	5.11	3.00	13.38	-44.45	-13.00	31.45	H
3420.2	-54.27	4.02	3.00	12.5	-45.79	-13.00	32.79	V
5130.3	-49.95	5.11	3.00	13.38	-41.68	-13.00	28.68	V

LTE FDD Band 66-15KHz-QPSK-Middle Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.0	-46.23	4.02	3.00	12.45	-37.8	-13.00	24.8	H
5235.0	-48.2	5.11	3.00	13.38	-39.93	-13.00	26.93	H
3490.0	-52.47	4.02	3.00	12.45	-44.04	-13.00	31.04	V
5235.0	-48.74	5.11	3.00	13.38	-40.47	-13.00	27.47	V



LTE FDD Band 66-15KHz-QPSK-High Channel

Frequency (MHz)	PMea (dBm)	Pcl (dB)	Diatance	Ga Antenna Gain(dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3559.8	-41.06	4.02	3.00	12.21	-32.87	-13.00	19.87	H
5339.7	-47.28	5.11	3.00	13.26	-39.13	-13.00	26.13	H
3559.8	-48.85	4.02	3.00	12.21	-40.66	-13.00	27.66	V
5339.7	-50.46	5.11	3.00	13.26	-42.31	-13.00	29.31	V

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by HUAKE, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at <http://www.cer-mark.com>.

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

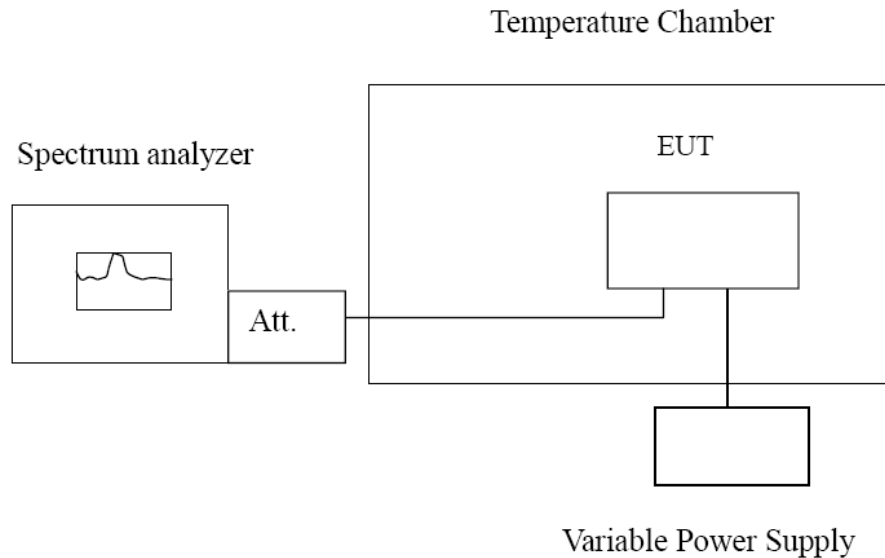


3.6 Frequency Stability under Temperature & Voltage Variations

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 0.1V 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.

**TEST RESULTS**

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, 15KHz , BPSK (worst case of all bandwidths)

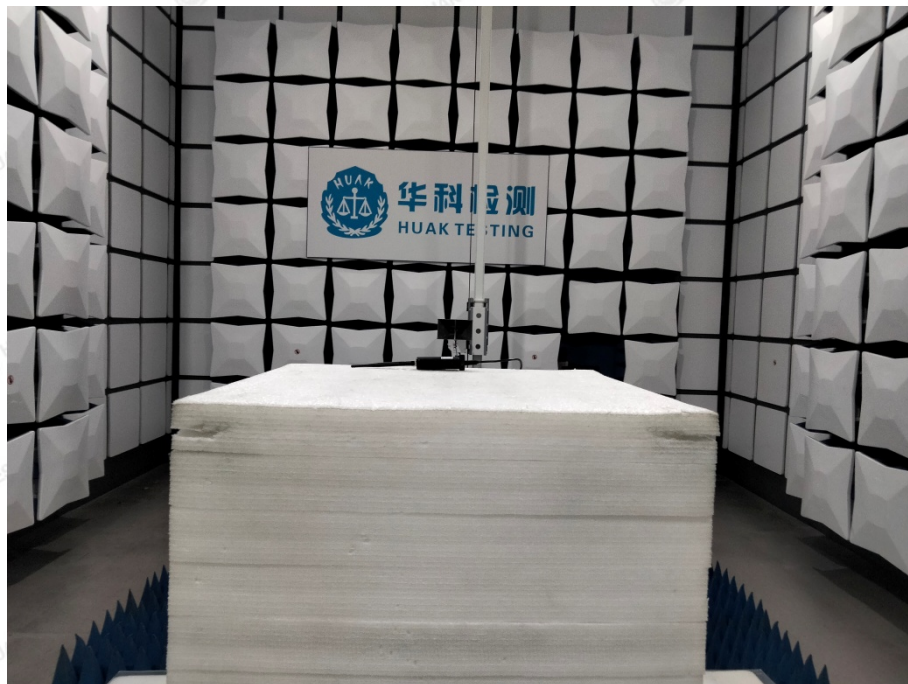
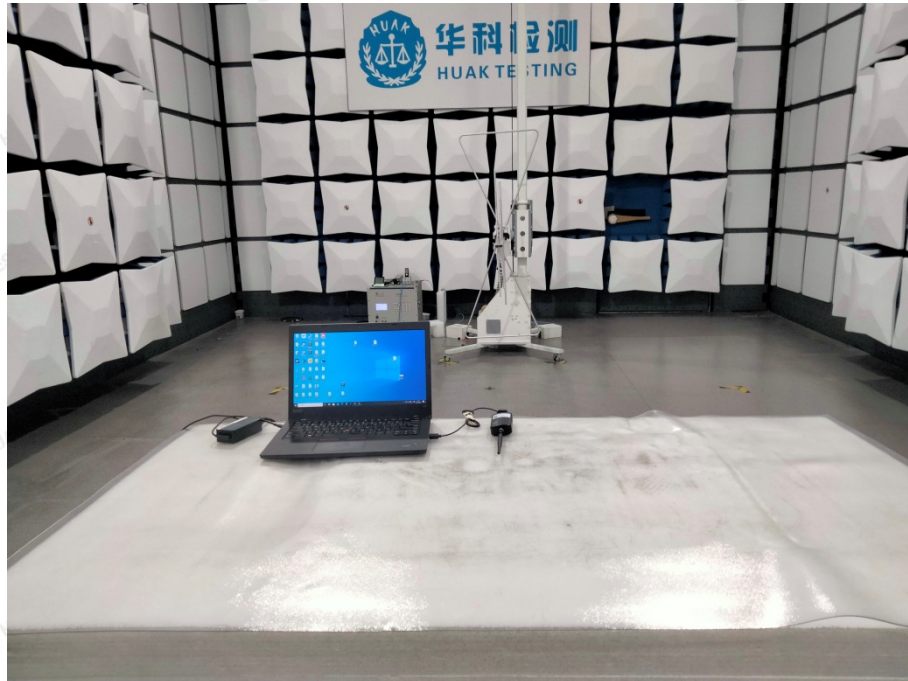
LTE FDD Band 66				
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Verdict
4.25	20	-18.28	-0.010689	PASS
5.0	20	-18.78	-0.010982	PASS
5.75	20	-18.30	-0.010701	PASS
5.0	-30	-13.55	-0.007924	PASS
5.0	-20	-14.76	-0.008631	PASS
5.0	-10	-20.79	-0.012157	PASS
5.0	0	-15.69	-0.008991	PASS
5.0	10	-13.13	-0.007524	PASS
5.0	20	-14.33	-0.008212	PASS
5.0	30	-12.65	-0.007249	PASS
5.0	40	-9.47	-0.005427	PASS
5.0	50	-11.83	-0.006779	PASS

LTE Band 66, 15KHz , QPSK (worst case of all bandwidths)

LTE FDD Band 66				
DC Power	Temperature (°C)	Frequency error(Hz)	Frequency error(ppm)	Verdict
4.25	20	-17.57	-0.010274	PASS
5.0	20	-12.12	-0.007087	PASS
5.75	20	-12.52	-0.007321	PASS
5.0	-30	-10.91	-0.006380	PASS
5.0	-20	-15.42	-0.009017	PASS
5.0	-10	-10.46	-0.006117	PASS
5.0	0	-11.12	-0.006372	PASS
5.0	10	9.17	0.005255	PASS
5.0	20	10.21	0.005851	PASS
5.0	30	8.78	0.005032	PASS
5.0	40	10.04	0.005754	PASS
5.0	50	13.59	0.007788	PASS



4 Test Setup Photos of the EUT





5 Photos of the EUT

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

.....End of Report.....