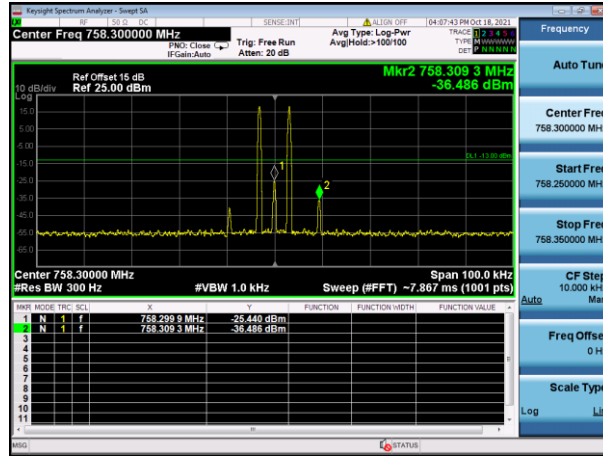


Appendix E - Noise/emission at Antenna Terminal

Test Data:

FDD LTE Band 14 _ Intermodulation product

Below test plots were only for recorded the case without engineering practice for reference.



Remark:

This EUT supports 4*4 MIMO, for MIMO mode the output signals are considered completely uncorrelated, so the antenna gain is 3dBi.

$$ERP = EIRP - 2.15dB$$

The conducted max intermodulation product is $-36.486dBm/300Hz = -21.257dBm/10kHz$, the conducted intermodulation product for 4x4 MIMO is $-21.257 + 10 \cdot \log(4) = -15.237 dBm/10kHz$, ERP of intermodulation product is $-15.237dBm/10kHz + 3dBi - 2.15dB = -14.387dBm/10kHz$

Applicant must use good engineering practice to make sure that the ERP of intermodulation products should not exceed the level -30dBm in 10kHz measurement bandwidth.



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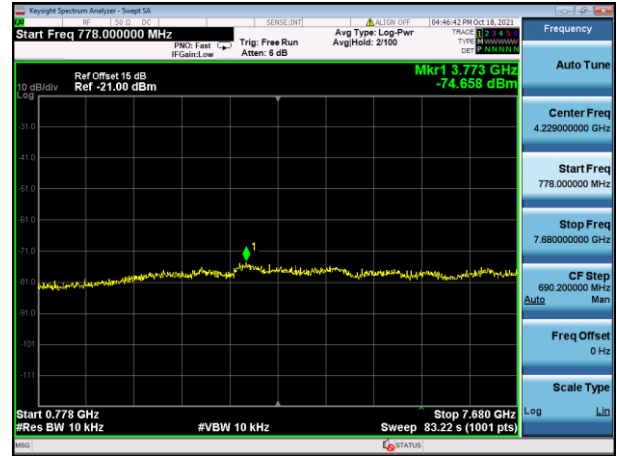
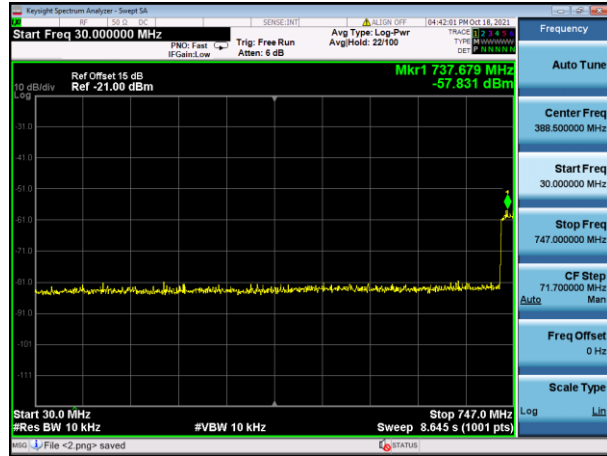
No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
 中国·江苏·昆山市留学院创业园伟业路10号 邮编 215300

t(86-512)57355888 f(86-512)57370818 www.sgsgroup.com.cn
 t(86-512)57355888 f(86-512)57370818 sgs.china@sgs.com

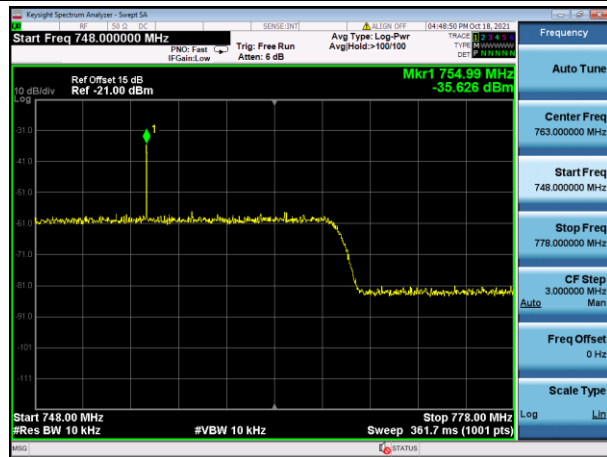
FDD LTE Band 14

Noise outside of the passband

Below test plots were only for recorded the case without engineering practice for reference.



Noise within of the passband



Remark:

This EUT supports 4*4 MIMO, for MIMO mode the output signals are considered completely uncorrelated, so the antenna gain is 3dBi.

$$ERP = EIRP - 2.15dB$$

The conducted max. noise on spectrum more than 1MHz outside of the passband is -57.831dBm/10Hz, the conducted max. noise on spectrum more than 1MHz outside of the passband for 4x4 MIMO is $-57.831 + 10 \cdot \log(4) = -51.811 \text{ dBm}/10\text{kHz}$, ERP of noise on spectrum more than 1MHz outside of the passband is $-51.811 \text{ dBm}/10\text{kHz} + 3\text{dBi} - 2.15\text{dB} = -50.961 \text{ dBm}/10\text{kHz}$.

The conducted max. noise on spectrum within the passband is -35.626dBm/10Hz, the conducted max. noise on spectrum within the passband for 4x4 MIMO is $-35.626 + 10 \cdot \log(4) = -29.606 \text{ dBm}/10\text{kHz}$, ERP of noise on spectrum within the passband is $-29.606 \text{ dBm}/10\text{kHz} + 3\text{dBi} - 2.15\text{dB} = -28.756 \text{ dBm}/10\text{kHz}$.

Applicant must use good engineering practice to make sure that the ERP of noise within of the passband should not exceed the level -43dBm in 10kHz measurement bandwidth and the ERP of noise on spectrum more than 1MHz outside of the passband should not exceed the level -70dBm in 10kHz measurement bandwidth.



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