



BUREAU
VERITAS

Test Report No.: W7L-P21080009RF15



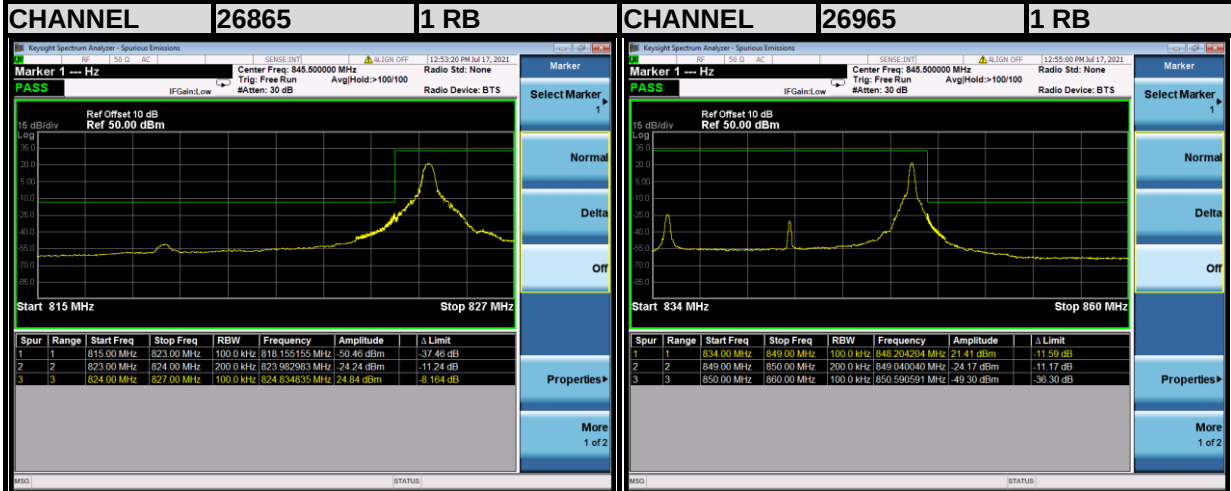


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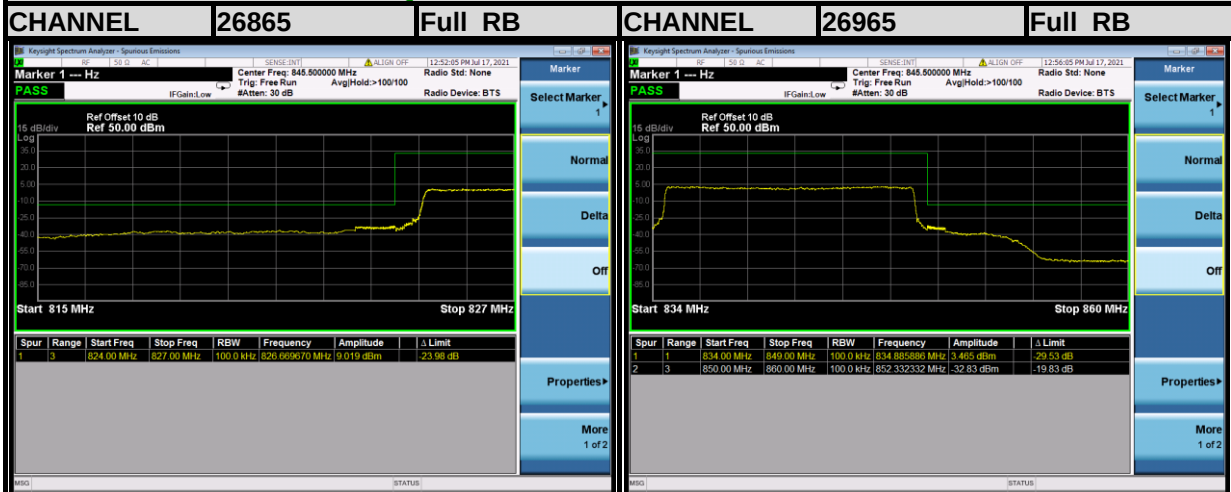
LTE Band26

Channel Bandwidth: 15MHz 16QAM



LTE Band26

Channel Bandwidth: 15MHz 16QAM



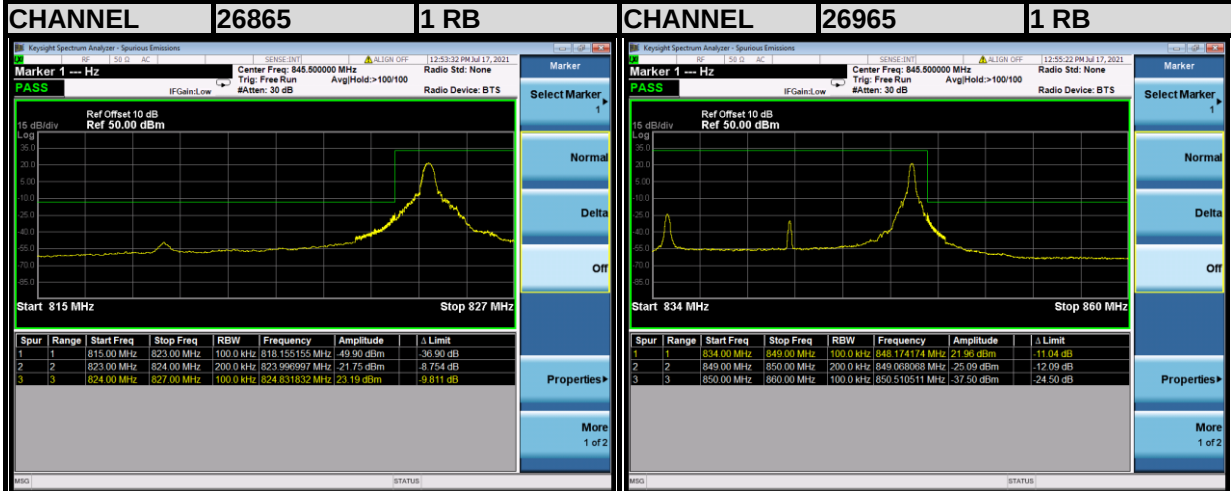


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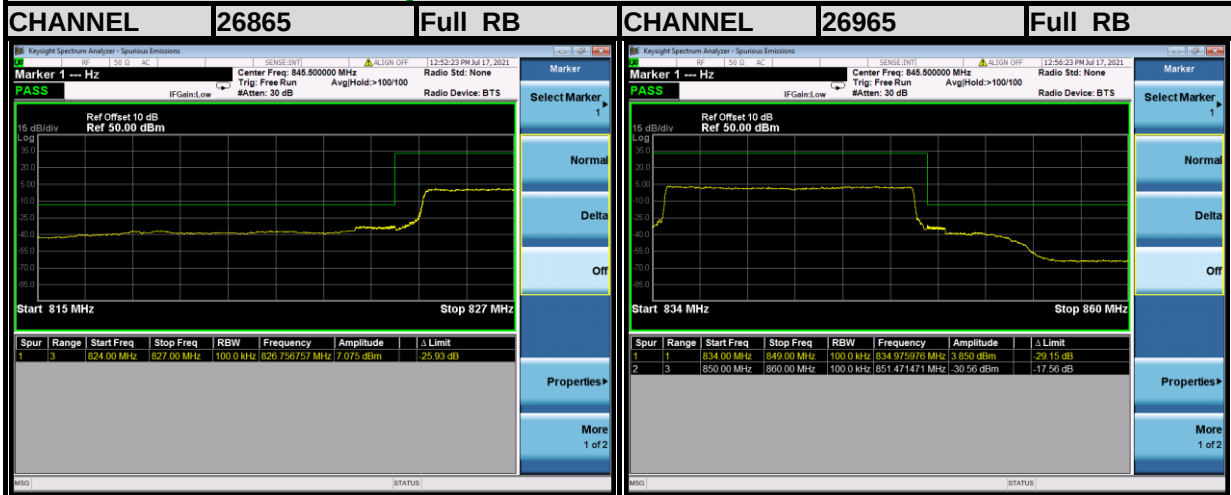
LTE Band26

Channel Bandwidth: 15MHz 64QAM



LTE Band26

Channel Bandwidth: 15MHz 64QAM



3.5 CONDUCTED SPURIOUS EMISSIONS

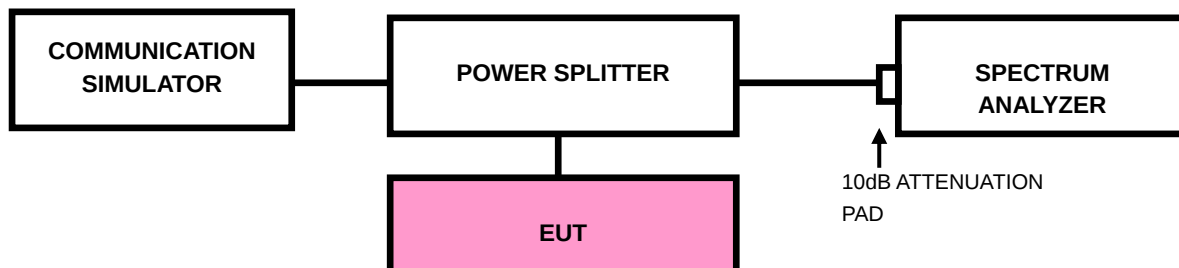
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 -13dBm .

3.5.2 TEST PROCEDURE

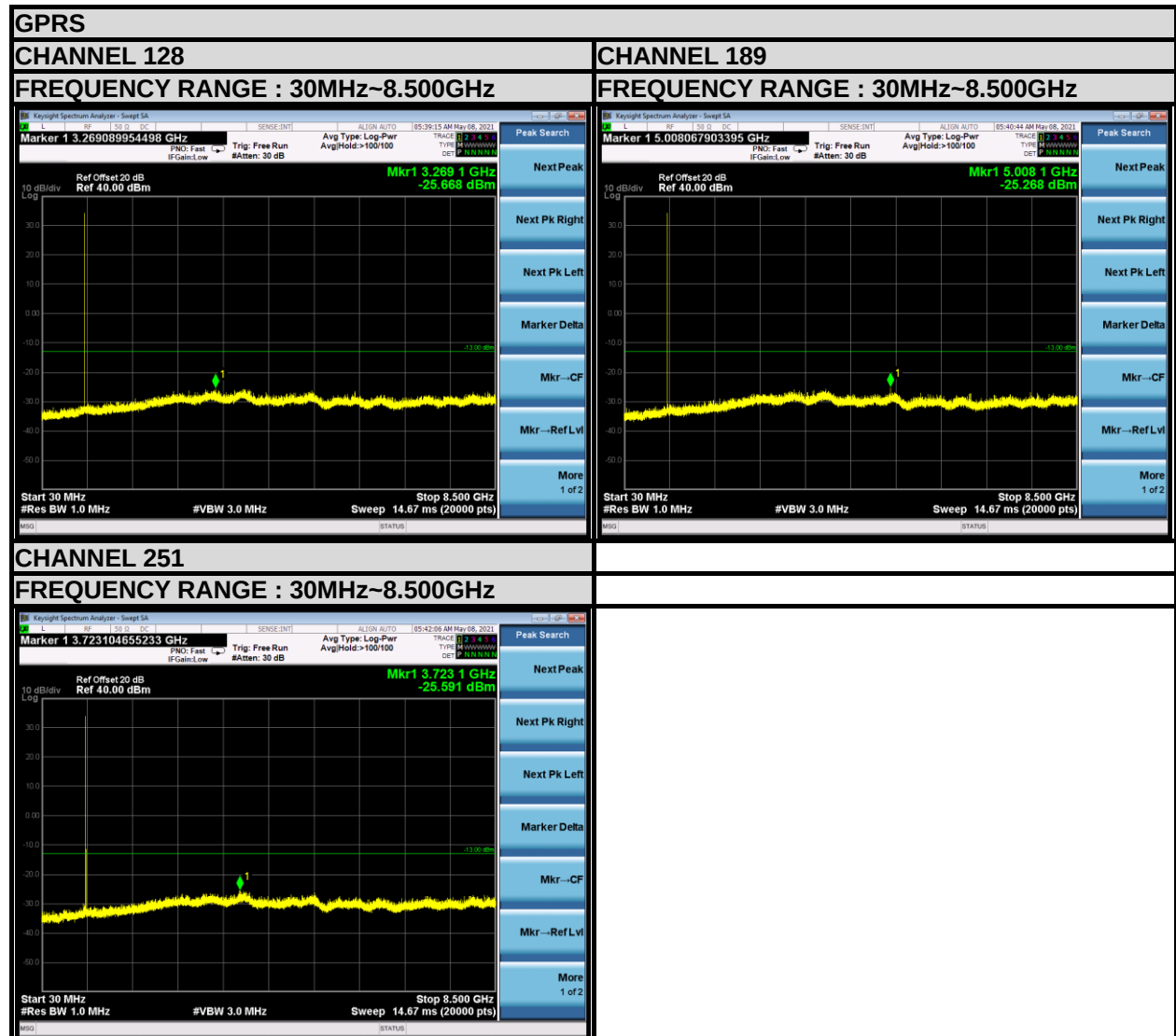
- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 9 kHz to 9GHz. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP





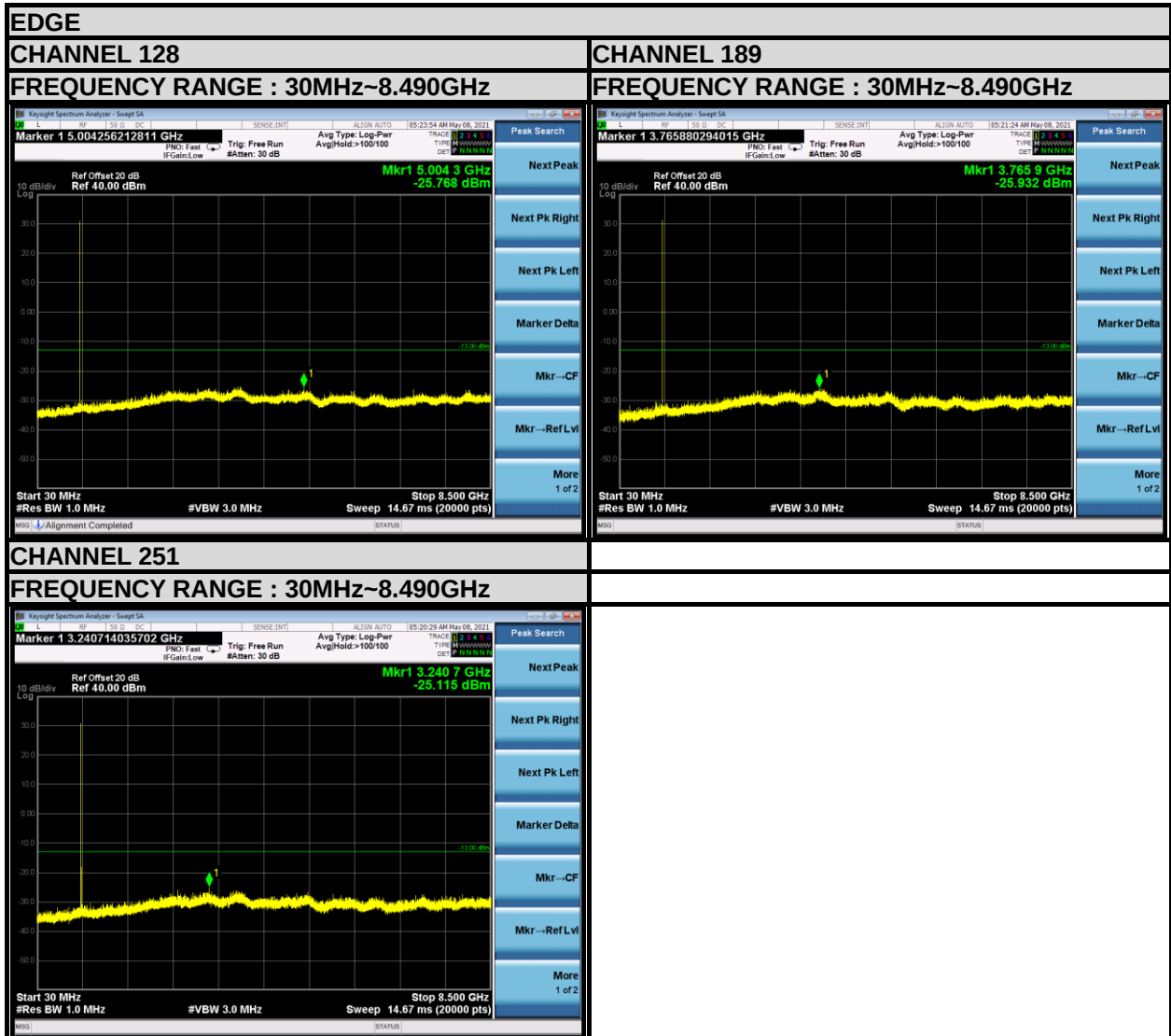
3.5.4 TEST RESULTS





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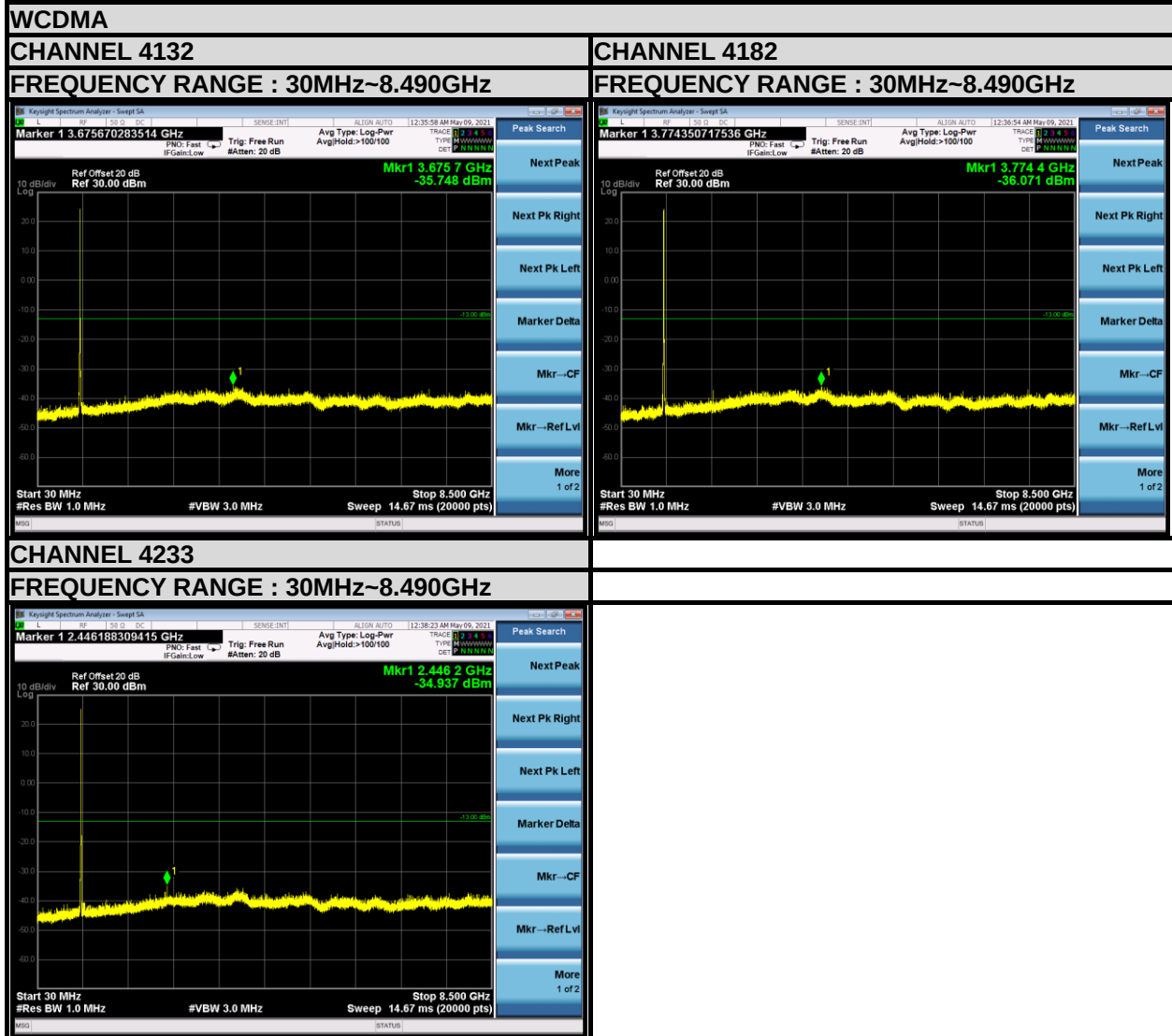
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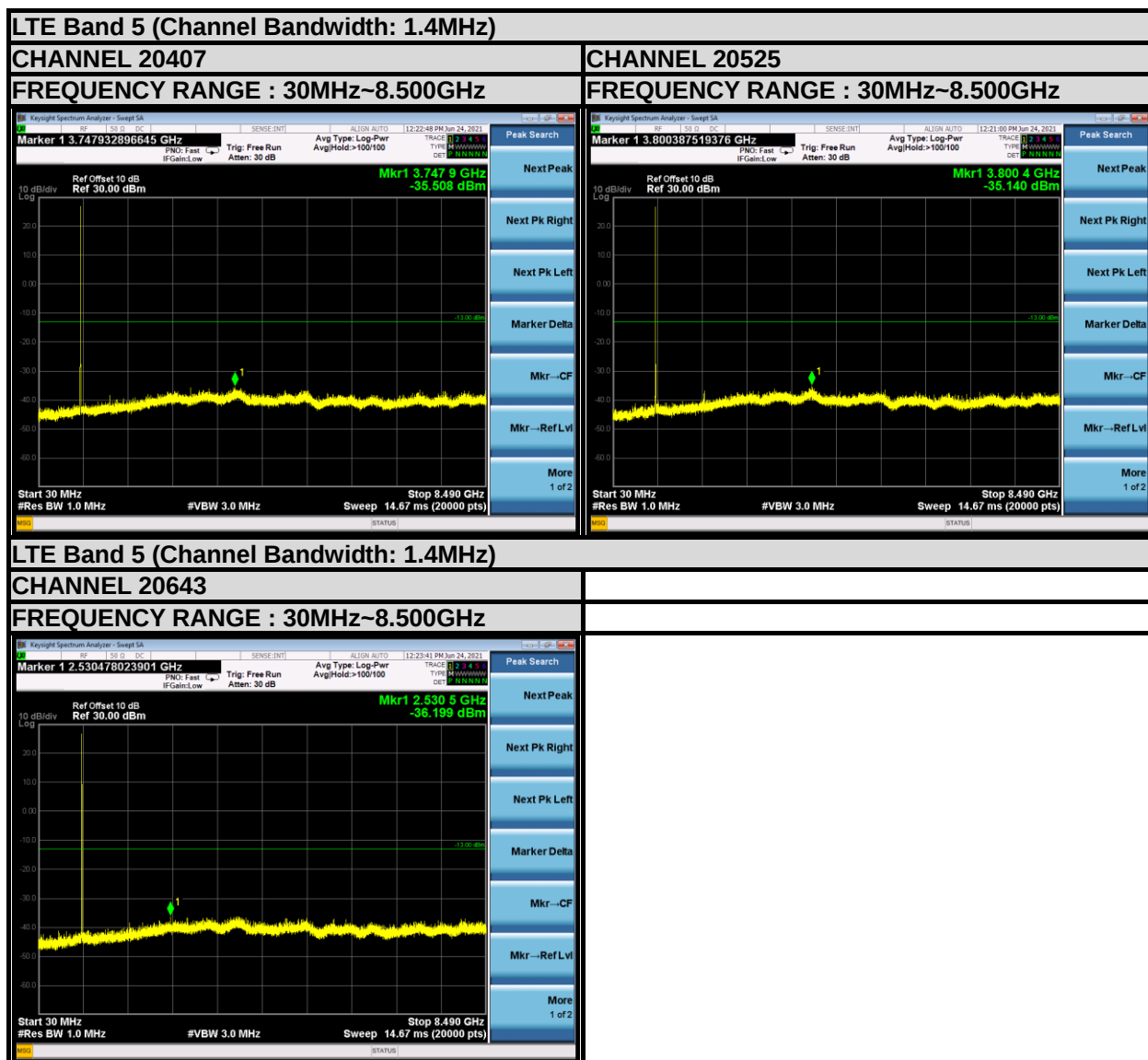




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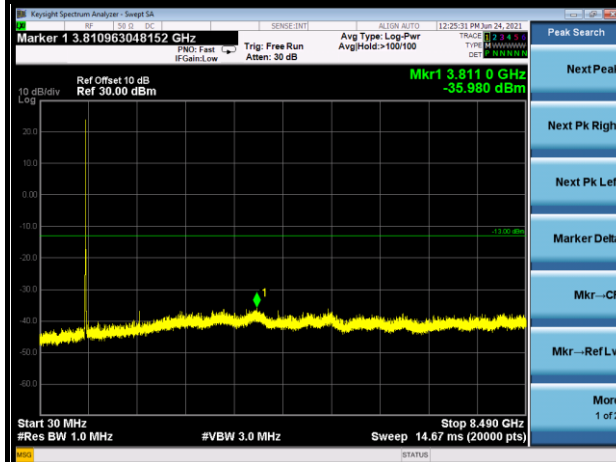
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LTE Band 5 (Channel Bandwidth: 3MHz)

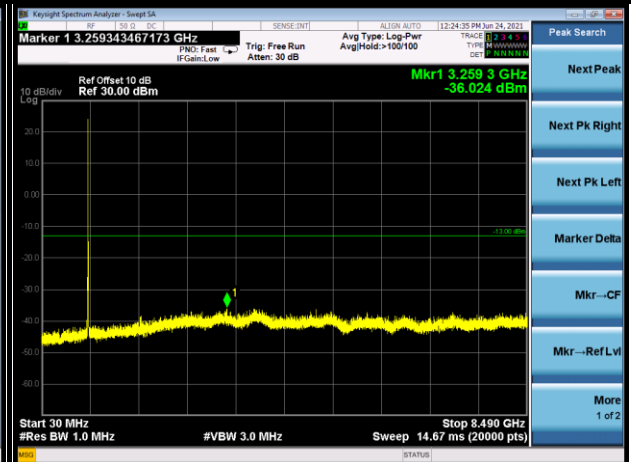
CHANNEL 20415

FREQUENCY RANGE : 30MHz~8.500GHz



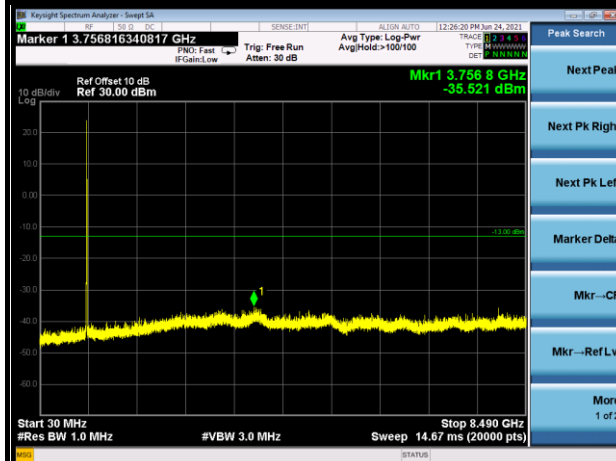
CHANNEL 20525

FREQUENCY RANGE : 30MHz~8.500GHz



CHANNEL 20635

FREQUENCY RANGE : 30MHz~8.500GHz





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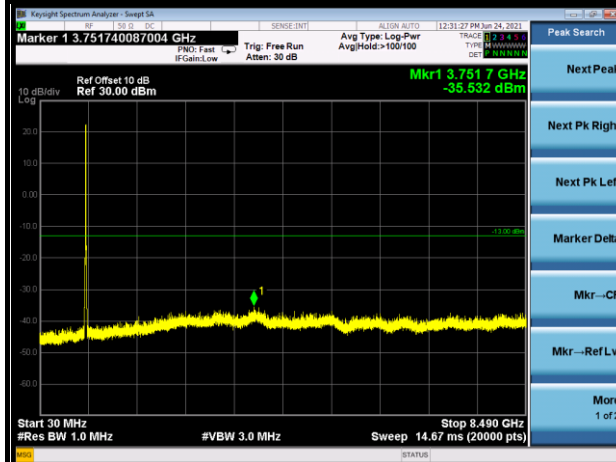
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LTE Band 5 (Channel Bandwidth: 10MHz)

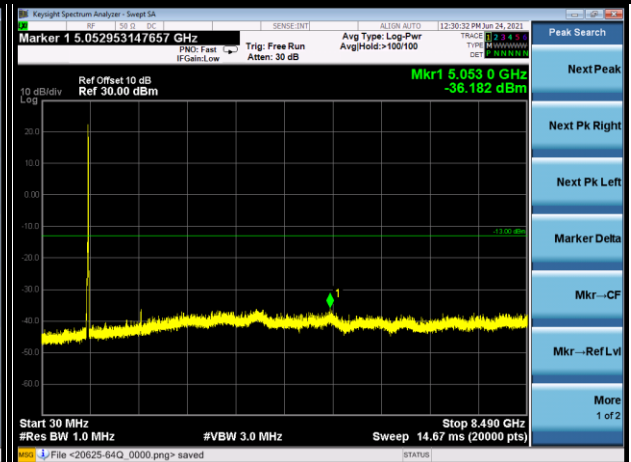
CHANNEL 20450

FREQUENCY RANGE : 30MHz~8.500GHz



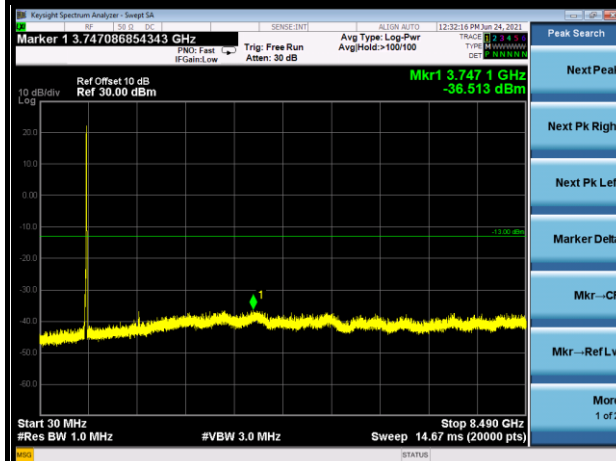
CHANNEL 20525

FREQUENCY RANGE : 30MHz~8.500GHz



CHANNEL 20600

FREQUENCY RANGE : 30MHz~8.500GHz





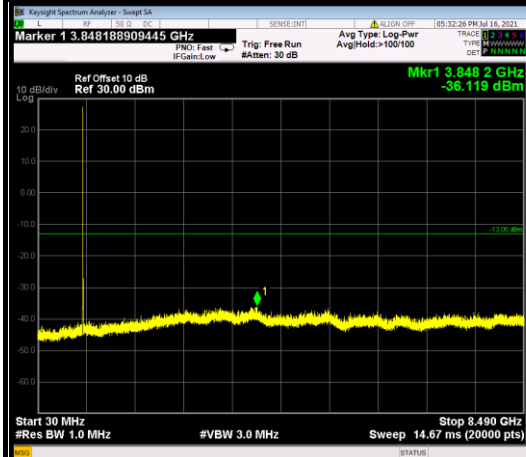
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LTE Band 26 (Channel Bandwidth: 1.4MHz)

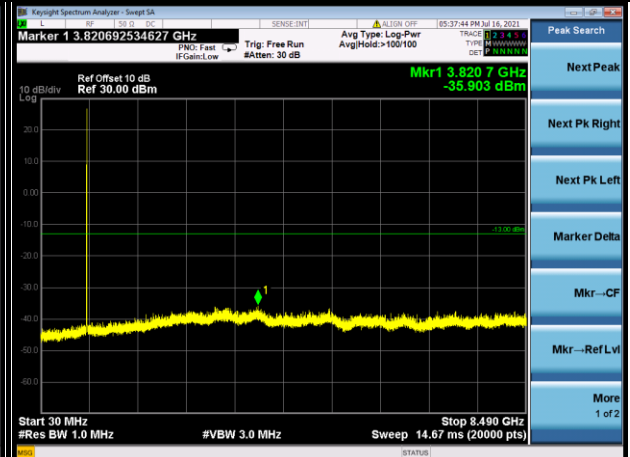
CHANNEL 26797

FREQUENCY RANGE : 30MHz~9.0GHz



CHANNEL 26865

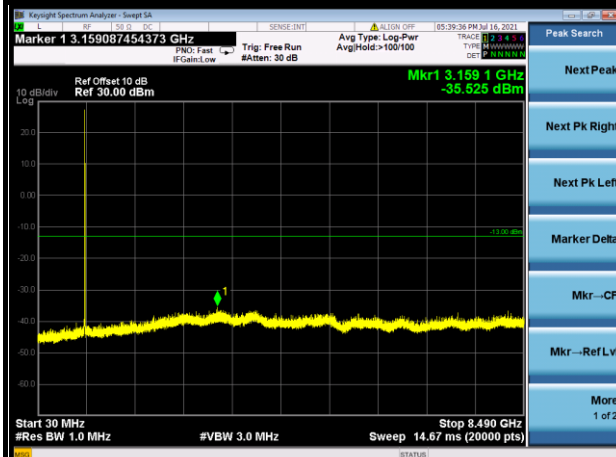
FREQUENCY RANGE : 30MHz~9.0GHz



LTE Band 26 (Channel Bandwidth: 1.4MHz)

CHANNEL 27033

FREQUENCY RANGE : 30MHz~9.0GHz





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3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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 -13dBm .

3.6.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,
 $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$.

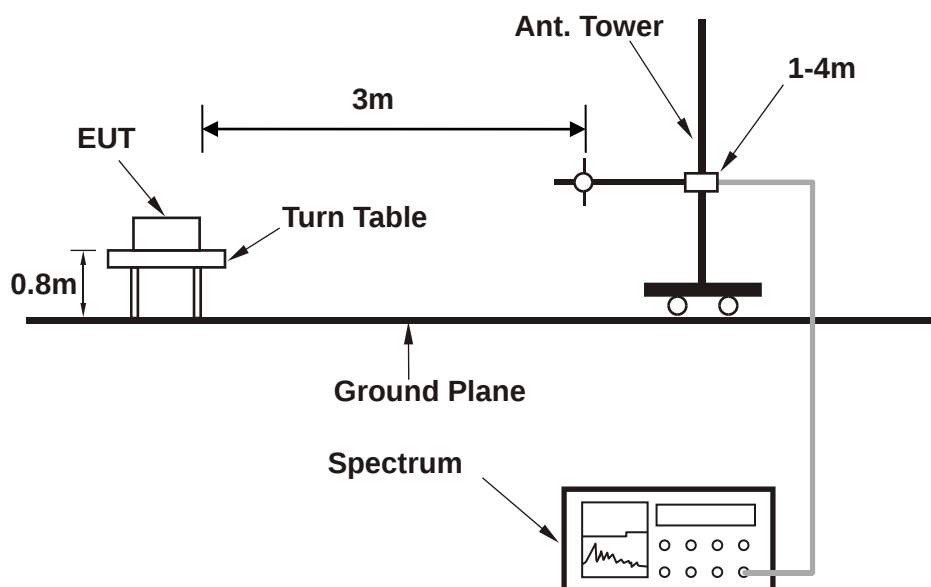
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

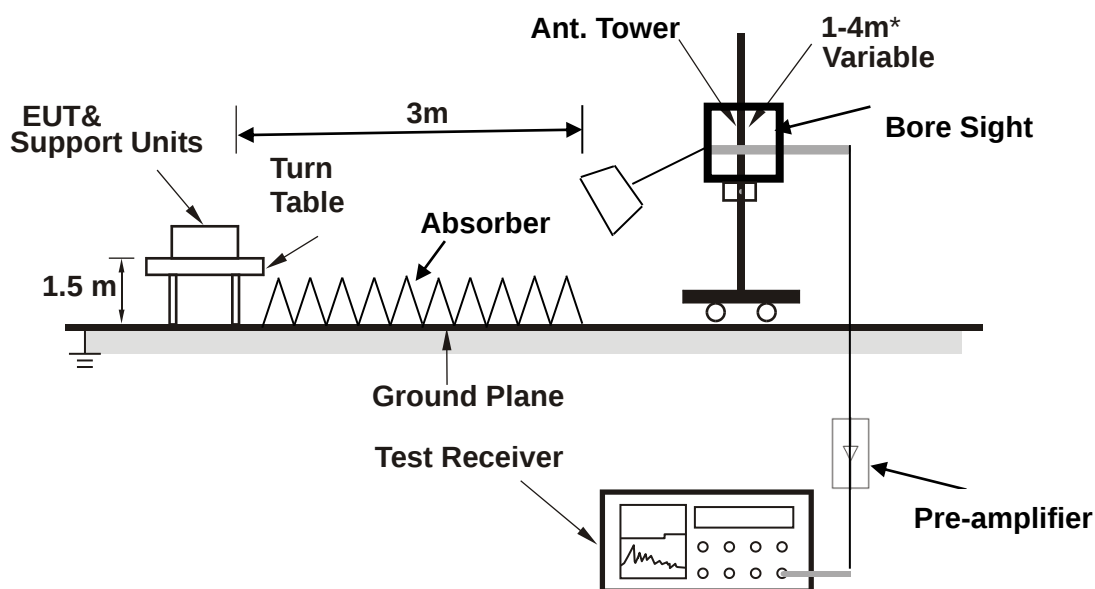
No deviation

3.6.4 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.6.5 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

GSM 850

CHANNEL BANDWIDTH: 128 ~ 251

MODE	TX channel 128	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	AC 120V/60Hz
TESTED BY	Jace Hu		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

	Freq	Level	Read Level	Limit Line	Over Limit	Factor	Remark	Pol/Phase
	MHz	dBm/m	dBm	dBm/m	dB	dB/m		
1	65.890	-32.66	-40.32	-13.00	-19.66	7.66	Peak	Horizontal
2	115.360	-26.08	-34.05	-13.00	-13.08	7.97	Peak	Horizontal
3 PP	164.830	-24.90	-35.63	-13.00	-11.90	10.73	Peak	Horizontal
4	280.260	-32.21	-45.89	-13.00	-19.21	13.68	Peak	Horizontal
5	623.640	-25.05	-46.22	-13.00	-12.05	21.17	Peak	Horizontal
6	711.910	-25.26	-48.04	-13.00	-12.26	22.78	Peak	Horizontal

