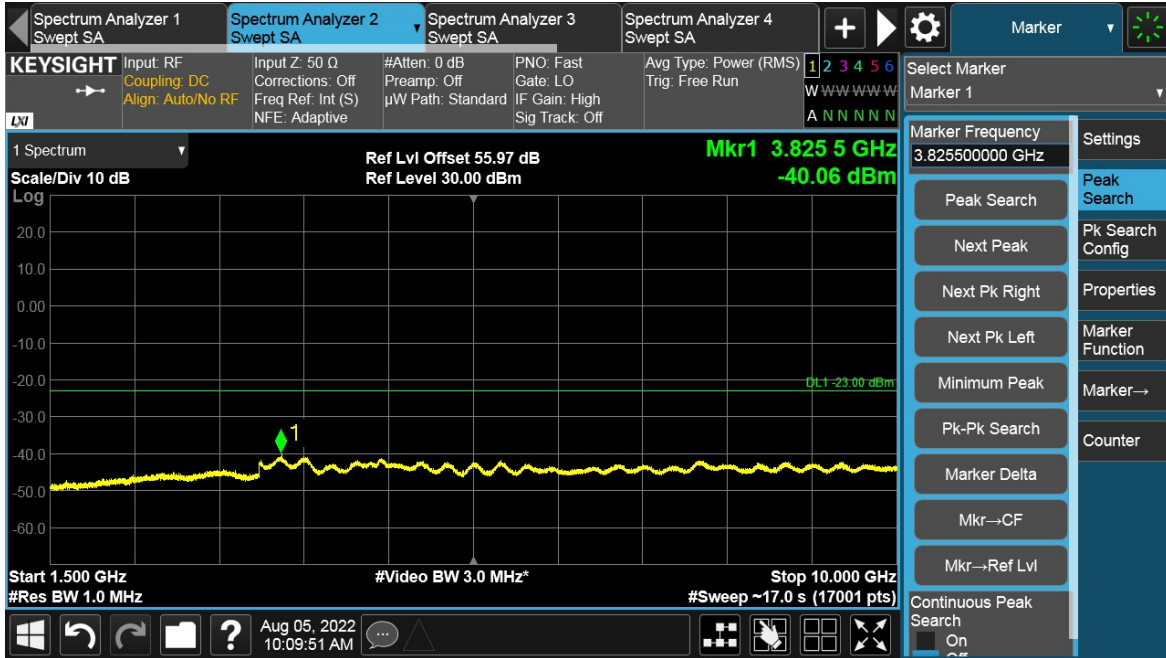


Total Quality. Assured.

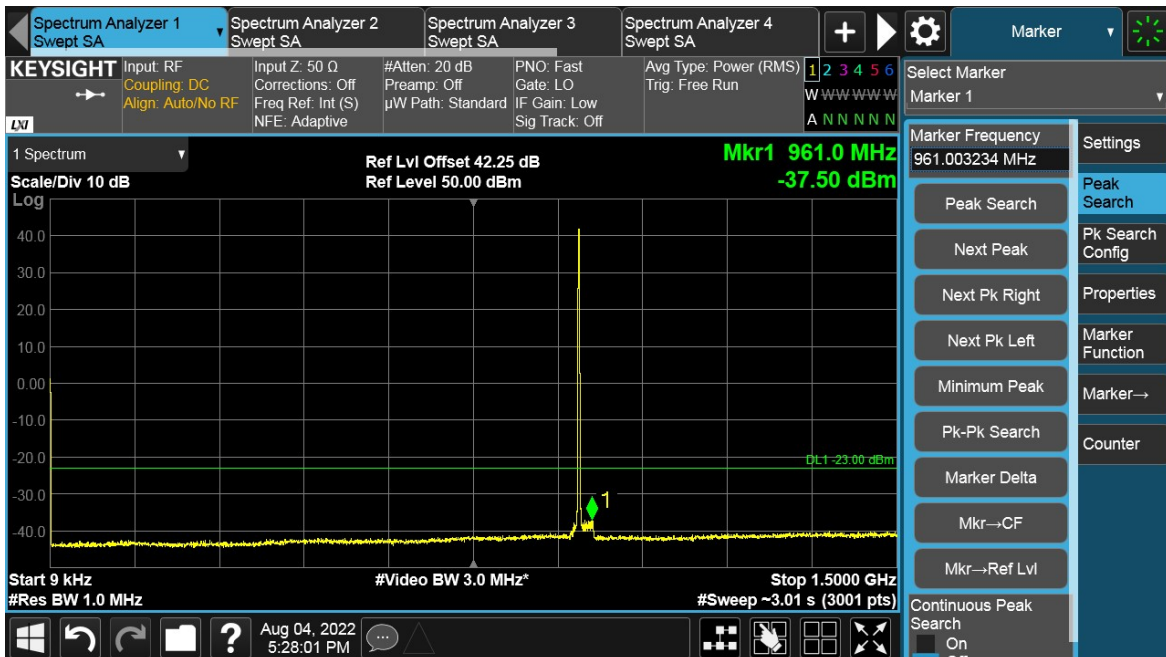
TEST REPORT

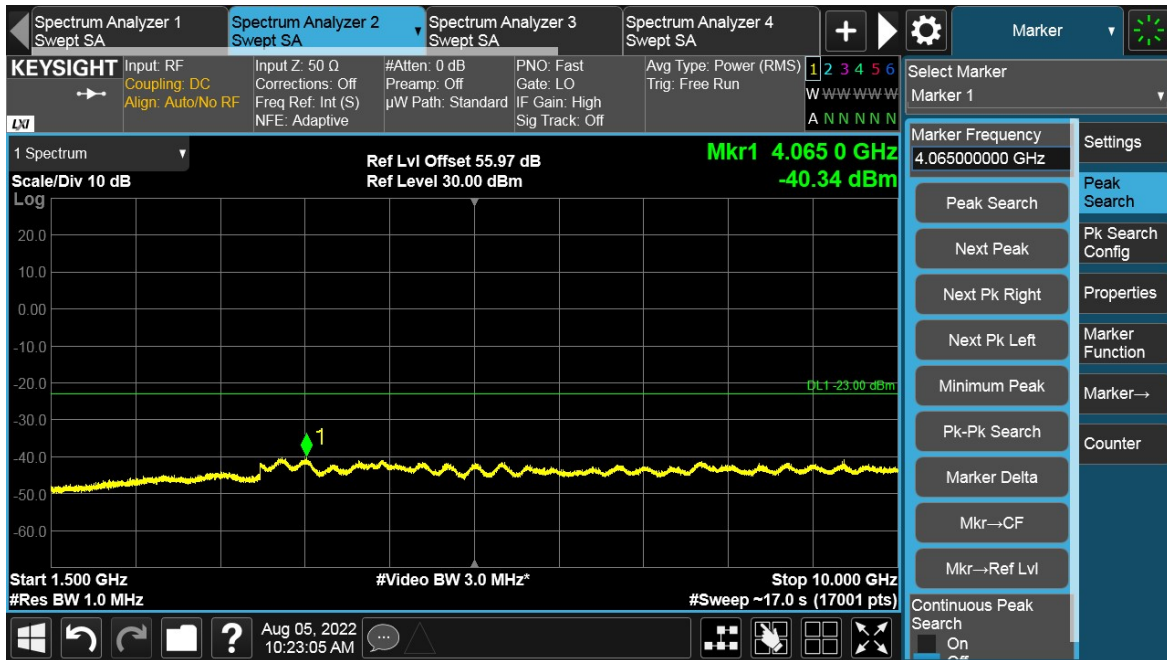


NB-IoT-SA-1C 20W without Filter Unit

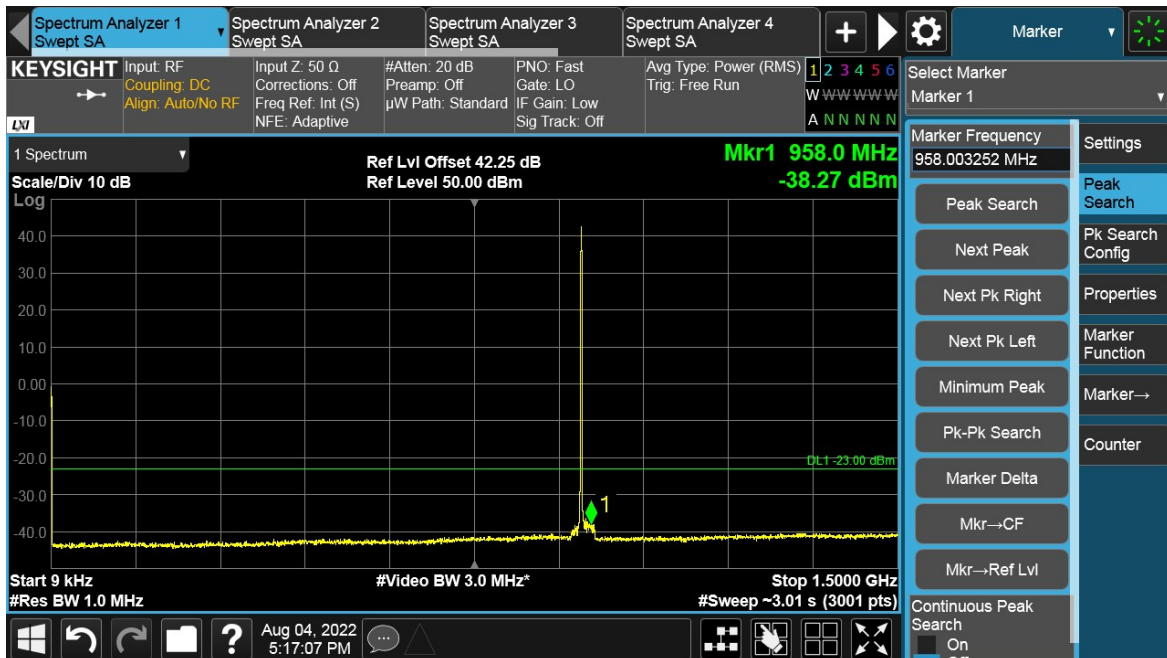
Antenna Port	Channel Position	Modulation	Channel Bandwidth (MHz)	RBW (kHz)	Limit (dBm)
B	B	QPSK	0.2	1000	-20.00
B	T	QPSK	0.2	1000	-20.00

Channel Position B





Channel Position T



Total Quality. Assured.

TEST REPORT



7 Radiated Unwanted Emission

Test result: Pass

7.1 Limit

The field strength of the carrier has been calculated assuming that the power is to be fed to a half-wave tuned dipoles as per 2.1053 (a).

$$E(V/m) = (30 \times G_i \times P_o)^{0.5} / d$$

Where

G_i is the antenna gain of ideal half-wave dipoles,

P_o is the power out of the transceiver in W,

d is the measurement distance in meter.

As per FCC Part 27, 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 $50 + 10\log(P)$ dB.

Therefore, the limit at 3m measurement distance is:

$$E(V/m) = 77.4 \text{ dB}\mu\text{V/m}$$

These limits have been used to determine Pass or Fail for the harmonics measured and detailed in the following results.

7.2 Measurement Procedure

This measurement is carried out in semi-anechoic chamber.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within the chamber. Measurements of emissions from the EUT were obtained with the measurement antenna in both horizontal and vertical polarizations.

Emissions identified within the range 30MHz to 10GHz were then formally measured using a peak detector as the worst case.

The limits for outside a licensee's frequency band(s) of operation the power of the spurious emissions have been calculated, as shown below using the following formula:

$$\text{Field Strength of Carrier} - (50 + 10\log(P)) \text{ dB}$$

Where:

Field Strength is measured in dB μ V/m

P is measured Transmitter Power in Watts

The EUT was measured with the antenna height varied between 1 and 4 m with the turntable rotated between 0 and 360 degrees. The emission of any outside a licensee's frequencies within 20dB of the limit were measured with the substitution method used according to the standard.

The measurements were performed at a 3m distance unless otherwise stated.

7.3 Measurement result

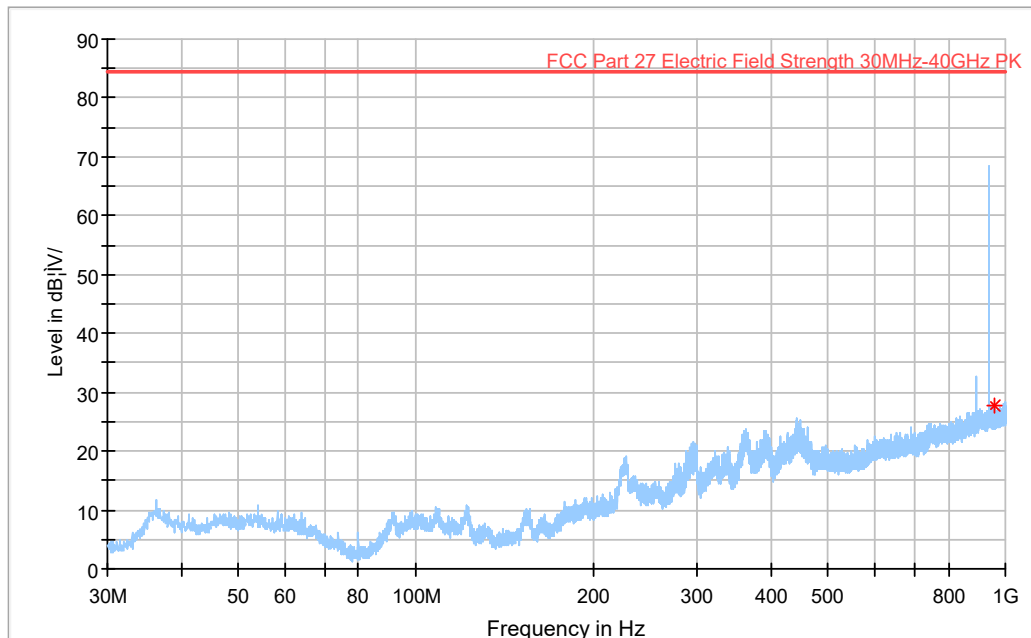
LTE-1C 60W with Filter Unit

Configuration	Channel Position	Carrier	Carrier Bandwidth	Modulation
LTE-1C	M	1 Carrier	3MHz	64QAM

Polarization	Frequency (MHz)	Emission level RMS (dB μ V/m)	Limits (dB μ V/m)	Margin (dB μ V/m)
Horizontal	958.613333	27.78	77.40	49.62
Vertical	975.480556	27.58	77.40	49.82
Horizontal	8587.166667	48.99	77.40	28.41
Vertical	8552.866667	48.35	77.40	29.05

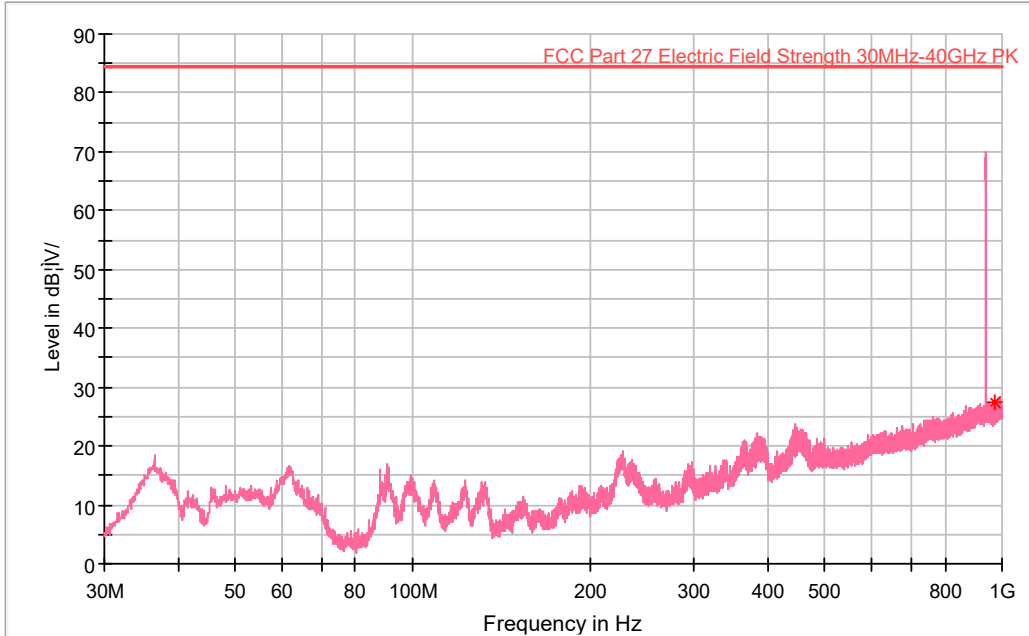
30-1000MHz, Horizontal

Full Spectrum



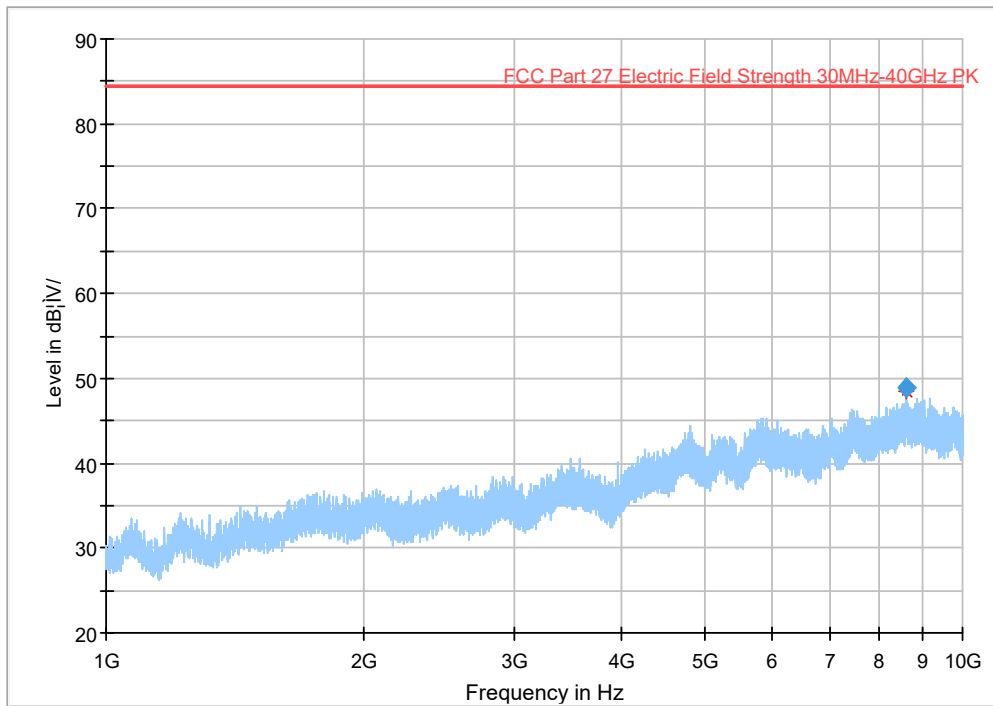
30-1000MHz, Vertical

Full Spectrum



1-10GHz, Horizontal

Full Spectrum



1-10GHz, Vertical