

ANNEX D - 100 kHz Bandwidth of Band Edges and Spurious Emissions at Antenna Terminals

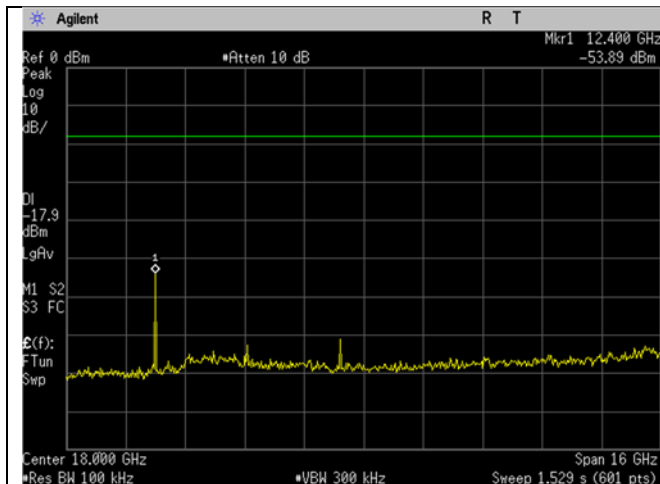
Naming Convention

Radio (BLE)_Channel (Low, Mid, High)_Frequency (MHz)_Rate (1Mbit, 2Mbit)_Measurement (-20dBc, 15.209)_Frequency Range (MHz, GHz, Upper Band Edge, Lower Band Edge)_Type (Peak, Avg)

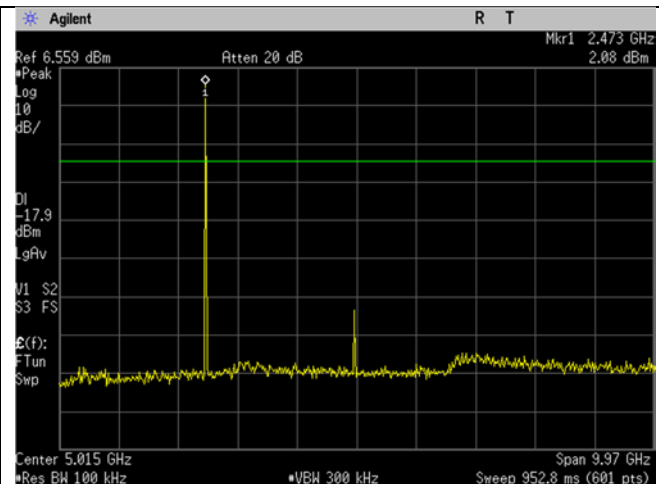
Note for 15.209 measurements: below measurements are in units of dBuV/m at 3meters. These measurements are performed conducted in lieu of radiated as permitted by ANSI C63.10-2013. The following formula was used in making such conversions:

Above 1GHz: $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{m}]) + 104.77$, where E is field strength and d is distance at which the field strength limit is specified in the applicable requirements. $E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3 \text{ m}$. Straight conversion between $E[\text{dB}\mu\text{V}/\text{m}]$ and $\text{EIRP}[\text{dBm}] = 107$. Thus offset for dBuV/m at 3meters is $95.2 - 107 + \text{antenna gain}$.

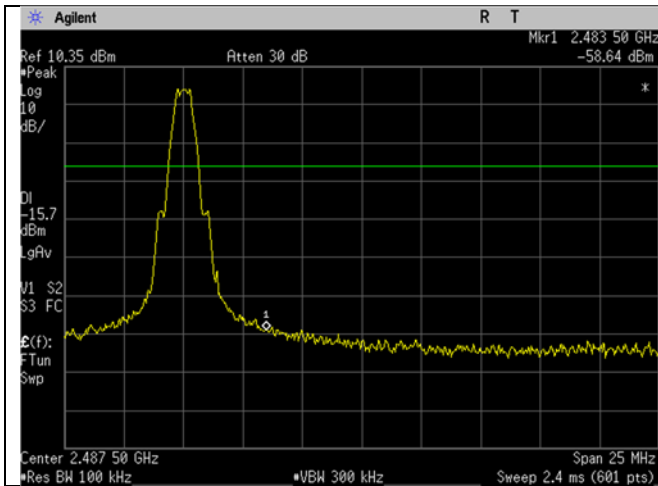
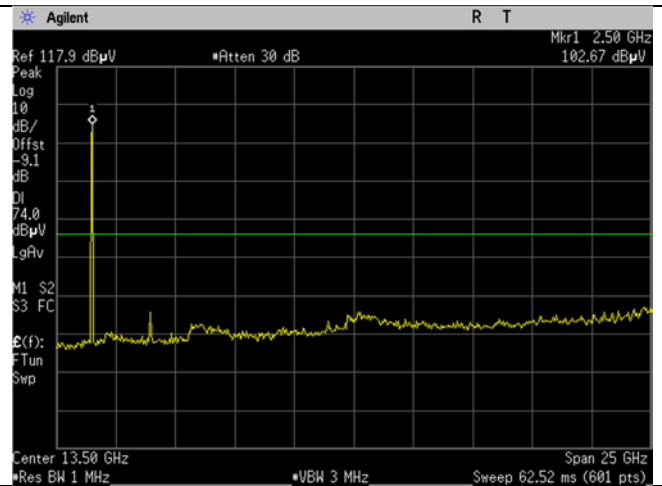
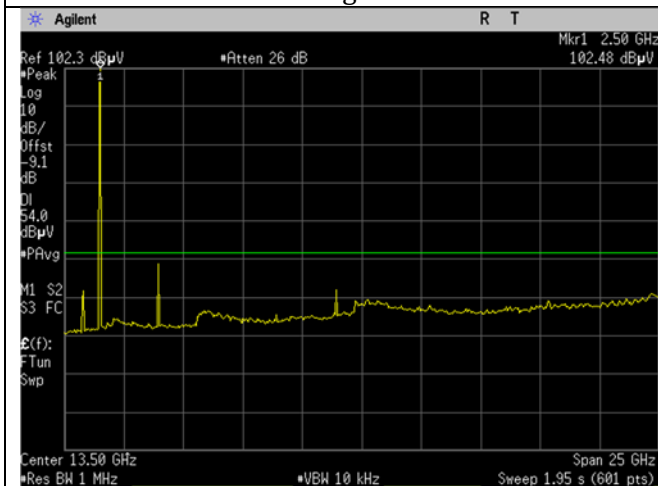
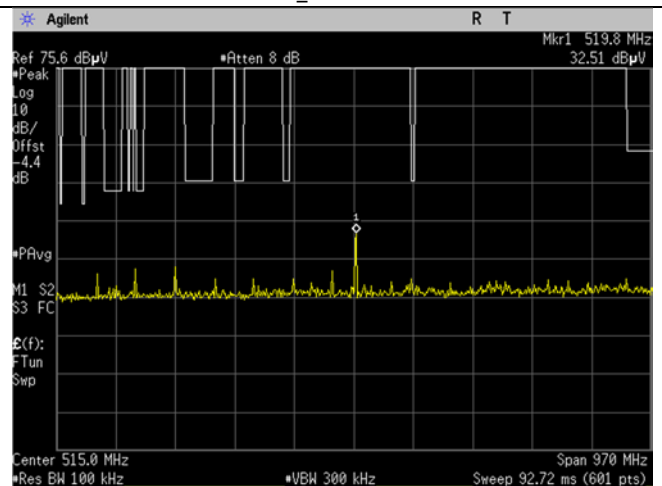
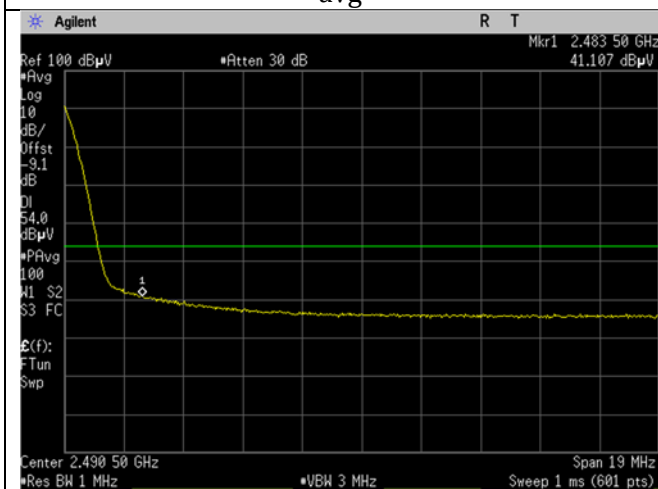
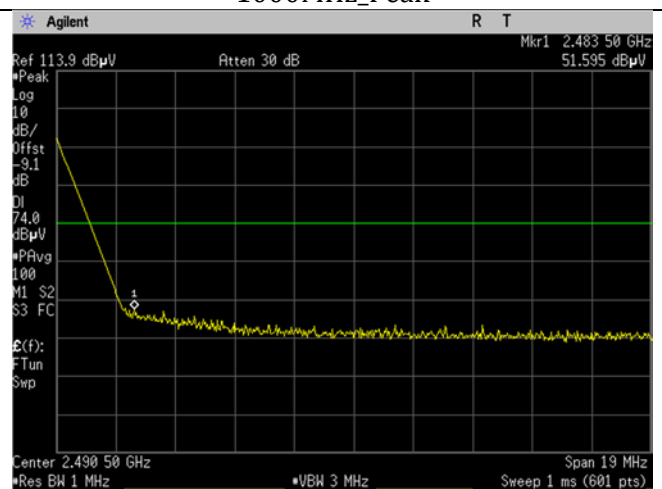
Below 1GHz: above is true in addition to adding ground plane contribution of 4.7dB. thus offset for dBuV/m at 3meters is $95.2 - 107 + 4.7 + \text{antenna gain}$.

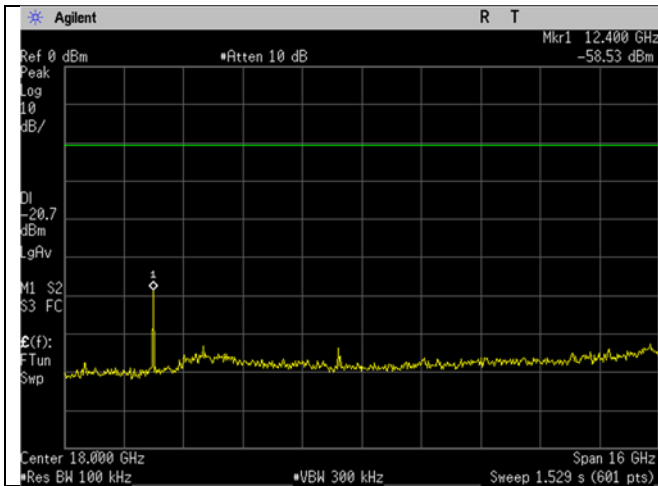


BLE_High Ch_2480MHz_1MBit_-20dBc_10-26GHz

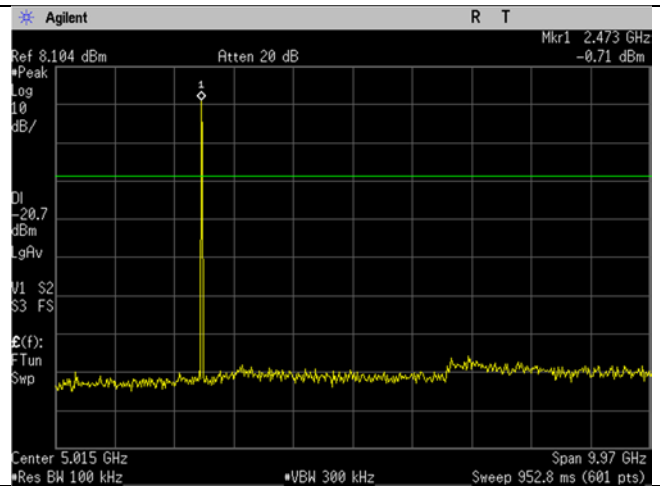


BLE_High Ch_2480MHz_1MBit_-20dBc_30MHz-10GHz

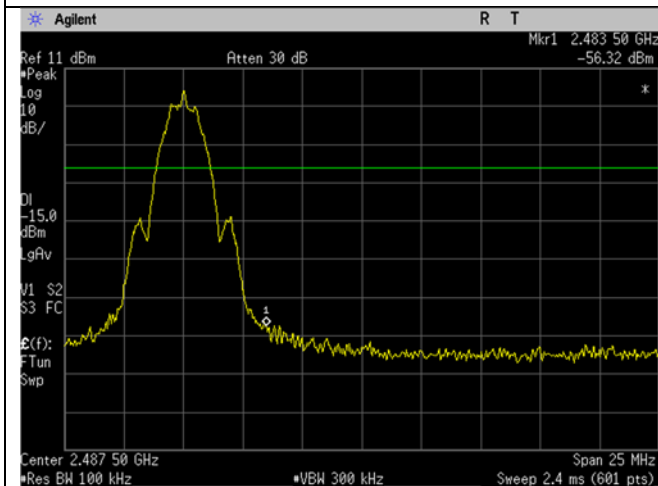
BLE_High Ch_2480MHz_1MBit_-20dBc_Upper Band
EdgeBLE_High Ch_2480MHz_1MBit_15.209_1-26GHz
_PeakBLE_High Ch_2480MHz_1MBit_15.209_1-26GHz
avgBLE_High Ch_2480MHz_1MBit_15.209_30-
1000MHz_PeakBLE_High Ch_2480MHz_1MBit_15.209_Upper Band
Edge AvgBLE_High Ch_2480MHz_1MBit_15.209_Upper Band
Edge Peak



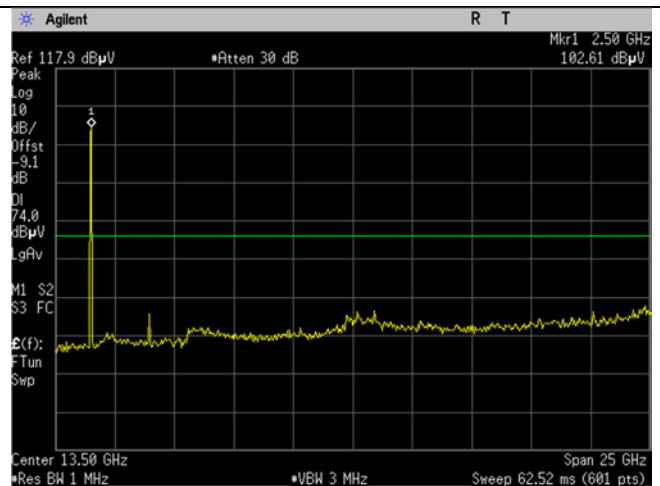
BLE_High Ch_2480MHz_2MBit_-20dBc_10-26GHz



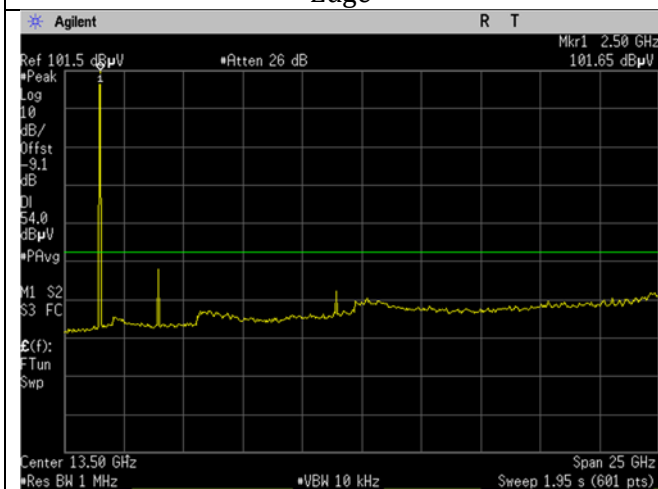
BLE_High Ch_2480MHz_2MBit_-20dBc_30MHz-10GHz



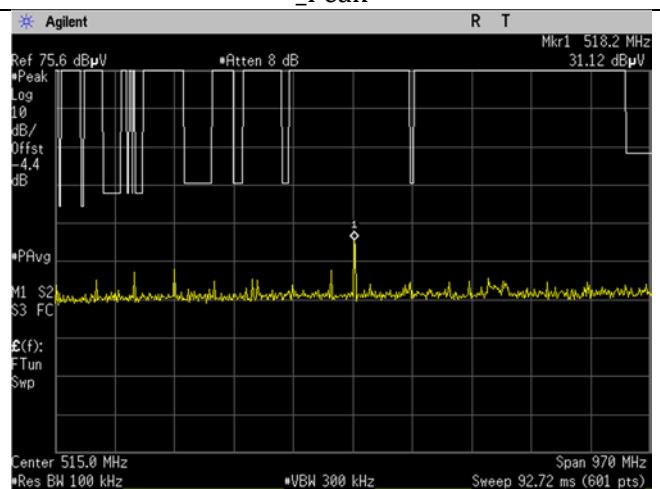
BLE_High Ch_2480MHz_2MBit_-20dBc_Upper Band Edge



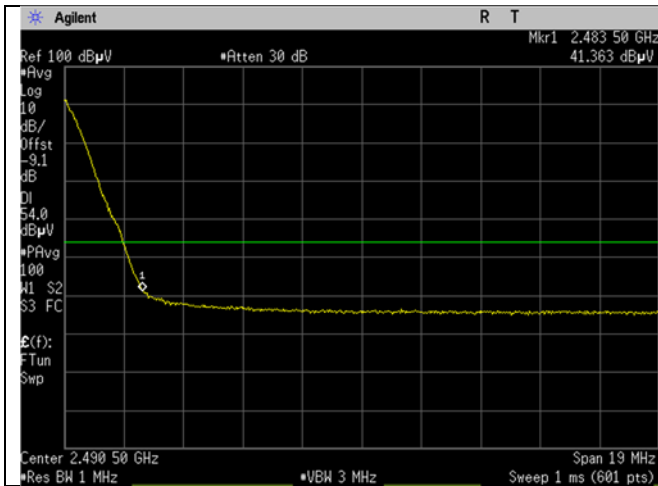
BLE_High Ch_2480MHz_2MBit_15.209_1-26GHz_Peak



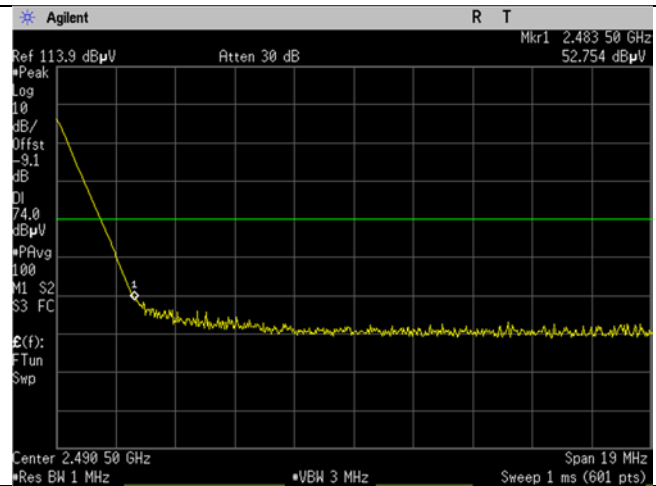
BLE_High Ch_2480MHz_2MBit_15.209_1-26GHz avg



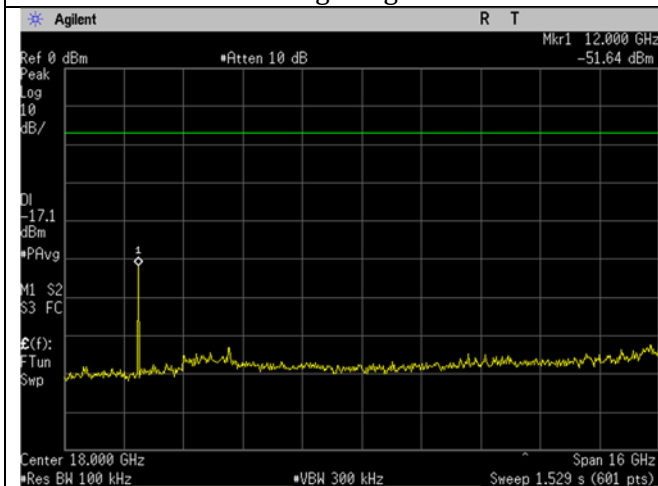
BLE_High Ch_2480MHz_2MBit_15.209_30-1000MHz_Peak



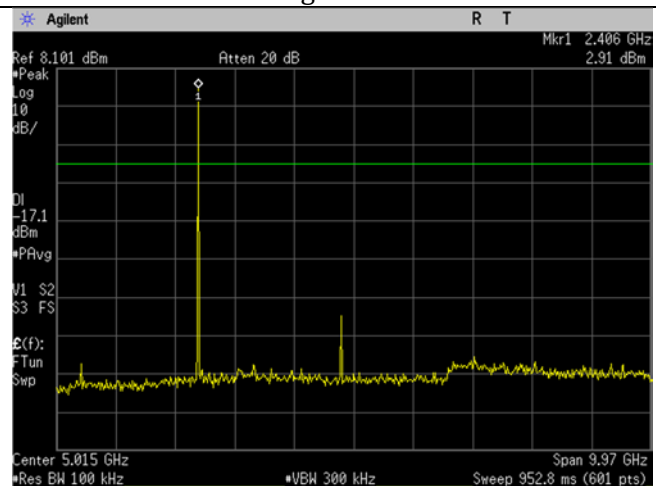
BLE_High Ch_2480MHz_2MBit_15.209_Upper Band
Edge Avg



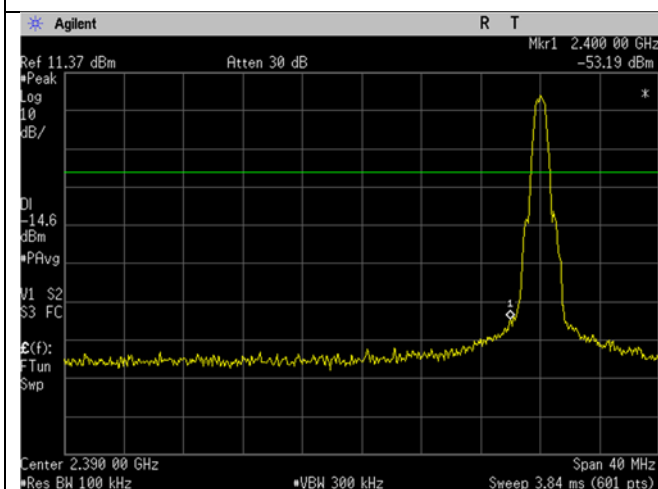
BLE_High Ch_2480MHz_2MBit_15.209_Upper Band
Edge Peak



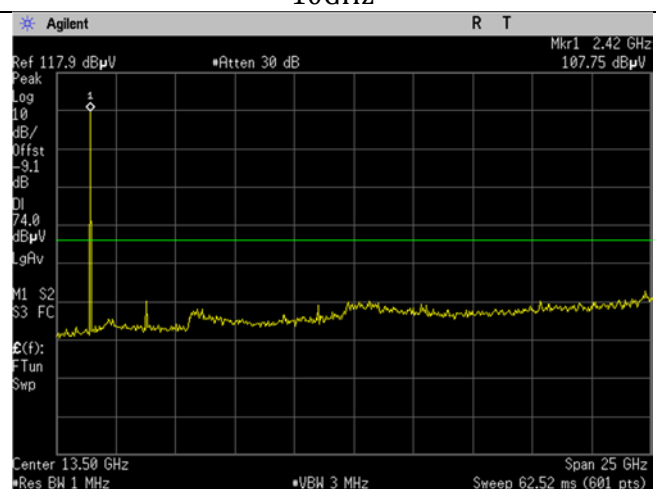
BLE_Low Ch_2402MHz_1MBit_-20dBc_10-26GHz



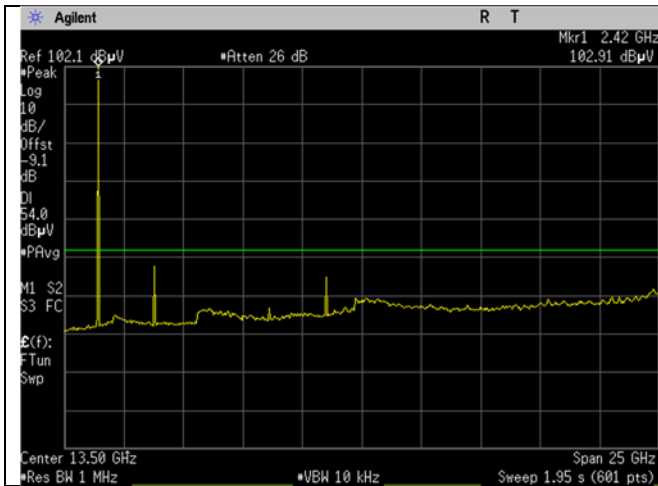
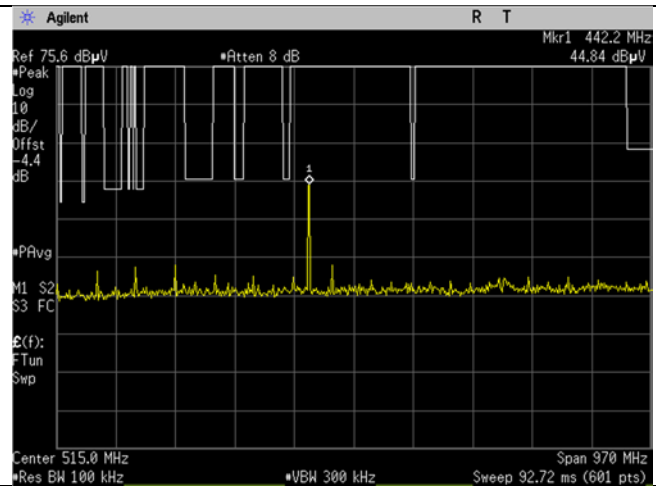
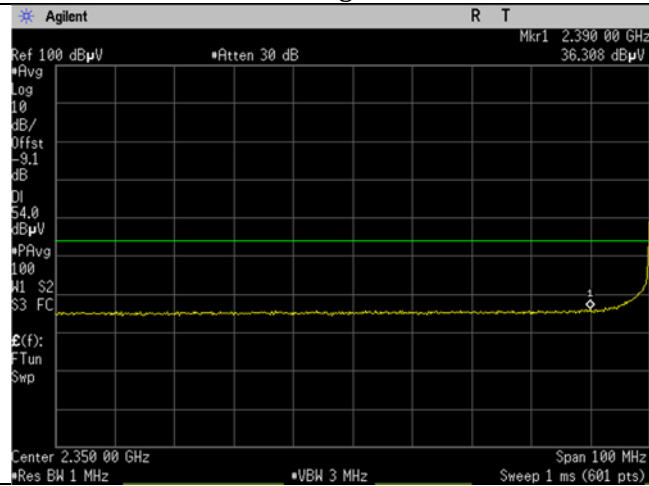
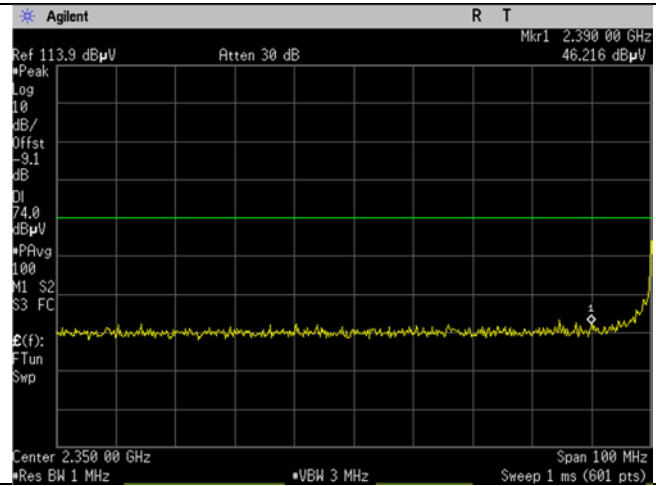
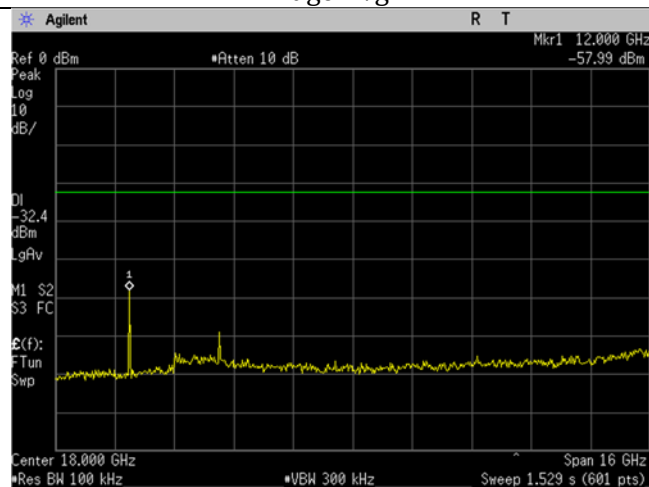
BLE_Low Ch_2402MHz_1MBit_-20dBc_30MHz-
10GHz



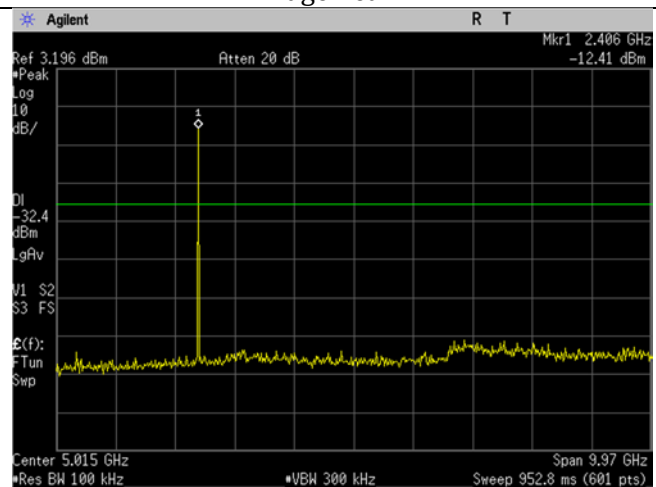
BLE_Low Ch_2402MHz_1MBit_-20dBc_Lower Band
Edge

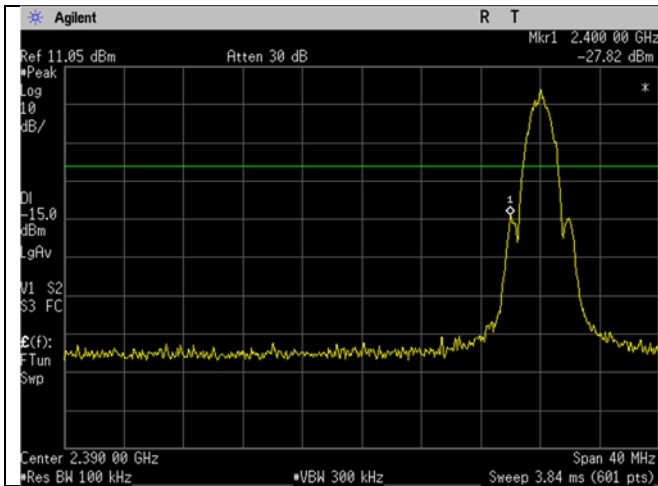
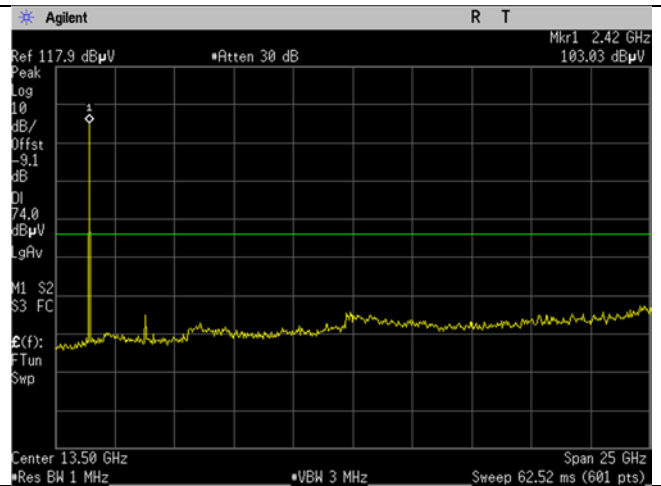
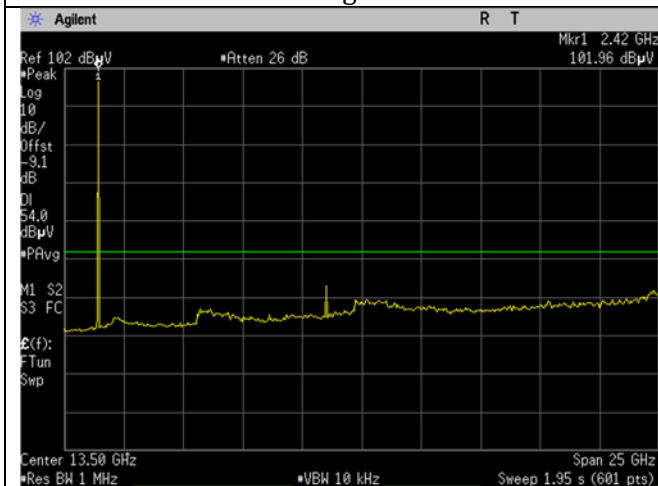
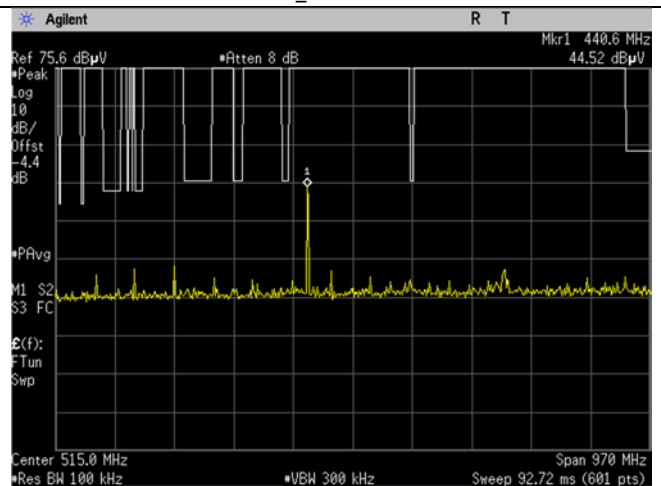
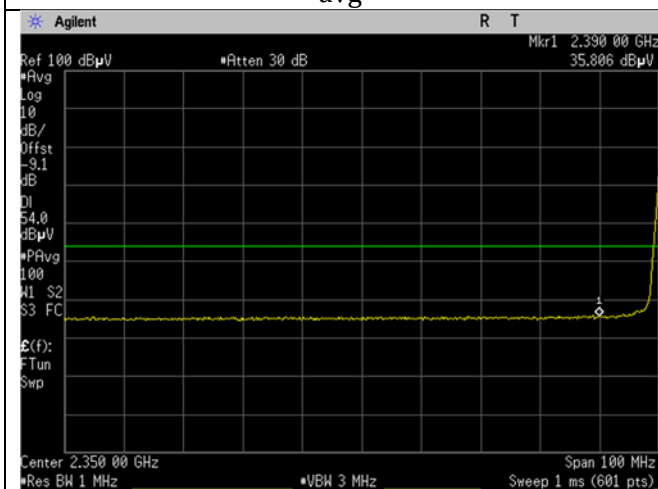
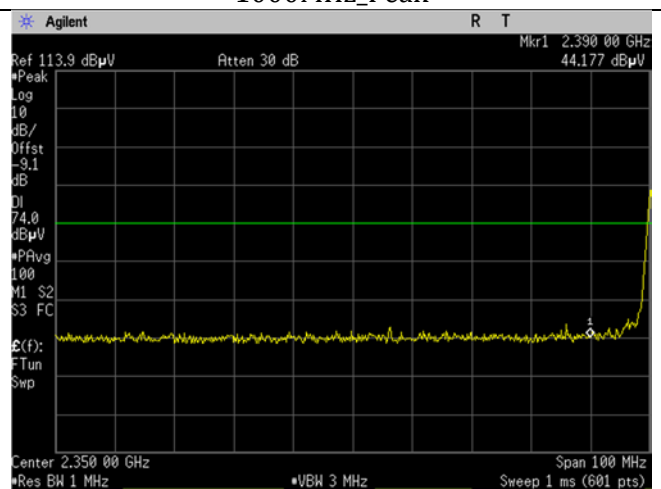


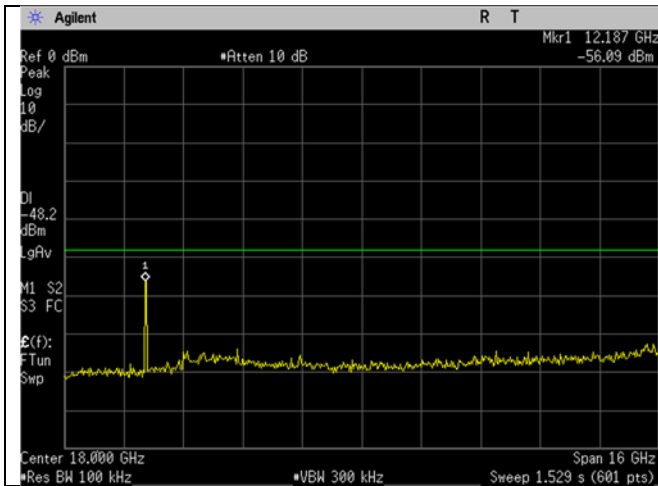
BLE_Low Ch_2402MHz_1MBit_15.209_1-26GHz
_Peak

BLE_Low Ch_2402MHz_1MBit_15.209_1-26GHz
avgBLE_Low Ch_2402MHz_1MBit_15.209_30-
1000MHz_PeakBLE_Low Ch_2402MHz_1MBit_15.209_Lower Band
Edge AvgBLE_Low Ch_2402MHz_1MBit_15.209_Lower Band
Edge Peak

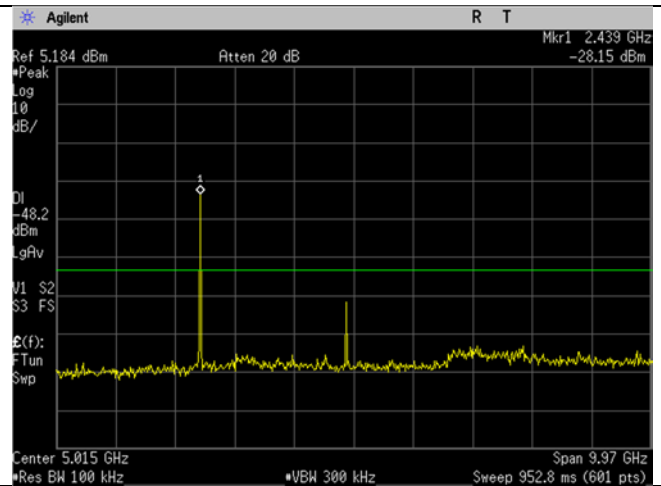
BLE_Low Ch_2402MHz_2MBit_-20dBc_10-26GHz

BLE_Low Ch_2402MHz_2MBit_-20dBc_30MHz-
10GHz

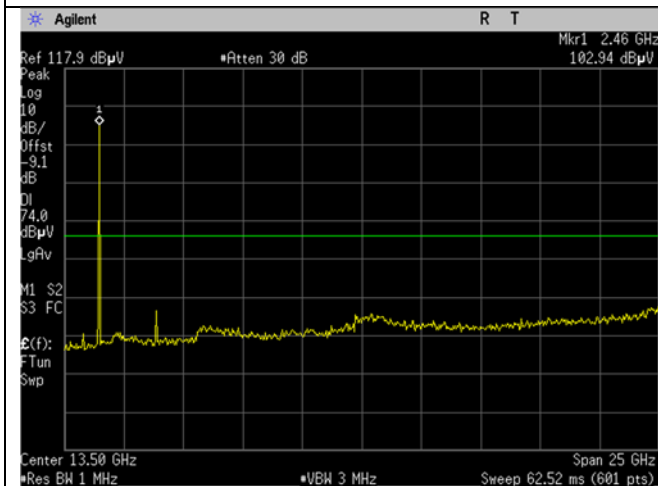
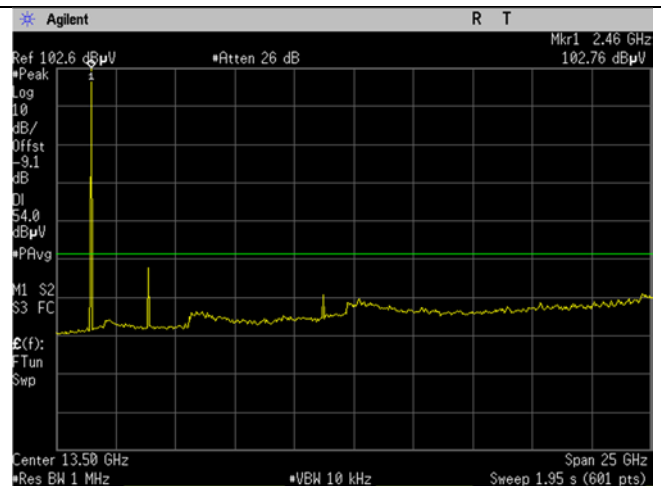
BLE_Low Ch_2402MHz_2MBit_-20dBc_Lower Band
EdgeBLE_Low Ch_2402MHz_2MBit_15.209_1-26GHz
_PeakBLE_Low Ch_2402MHz_2MBit_15.209_1-26GHz
avgBLE_Low Ch_2402MHz_2MBit_15.209_30-
1000MHz_PeakBLE_Low Ch_2402MHz_2MBit_15.209_Lower Band
Edge AvgBLE_Low Ch_2402MHz_2MBit_15.209_Lower Band
Edge Peak



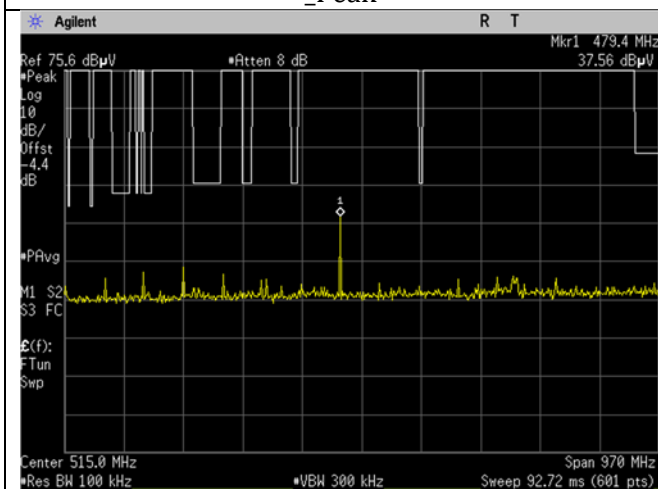
BLE_Mid Ch_2440MHz_1MBit_-20dBc_10-26GHz



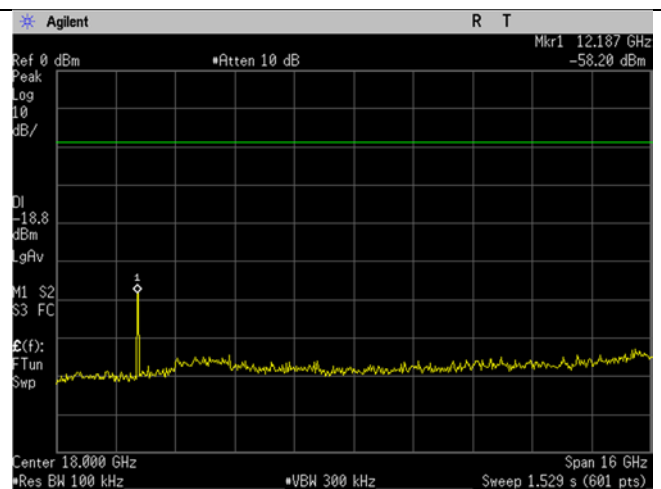
BLE_Mid Ch_2440MHz_1MBit_-20dBc_30MHz-10GHz

BLE_Mid Ch_2440MHz_1MBit_15.209_1-26GHz
_Peak

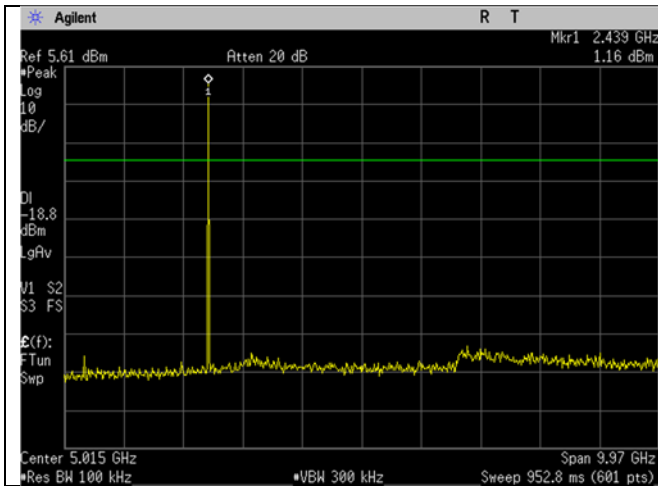
BLE_Mid Ch_2440MHz_1MBit_15.209_1-26GHz avg



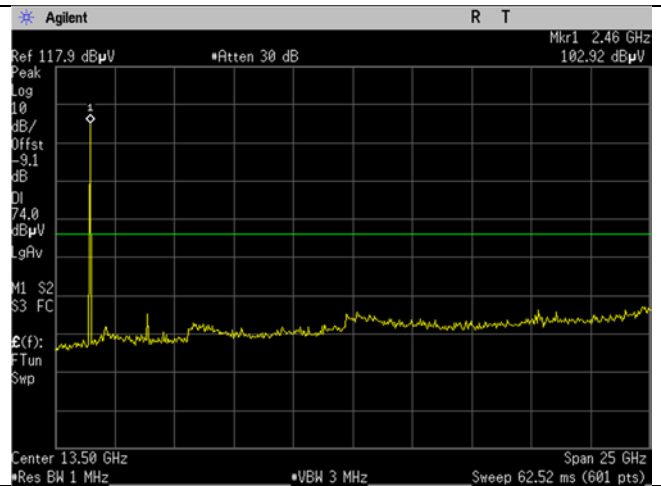
BLE_Mid Ch_2440MHz_1MBit_15.209_30-1000MHz_Peak



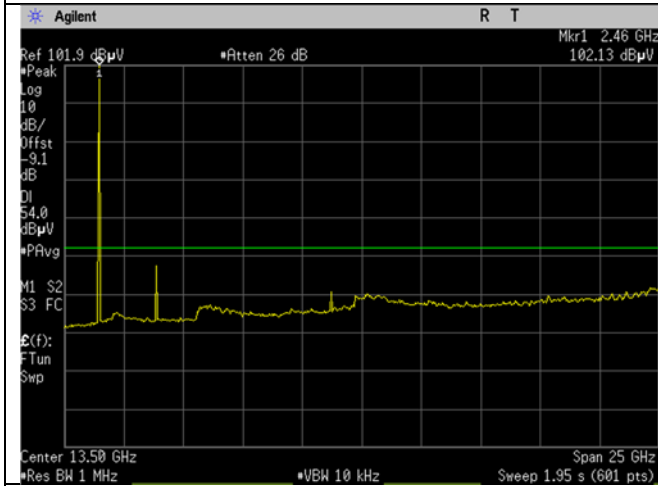
BLE_Mid Ch_2440MHz_2MBit_-20dBc_10-26GHz



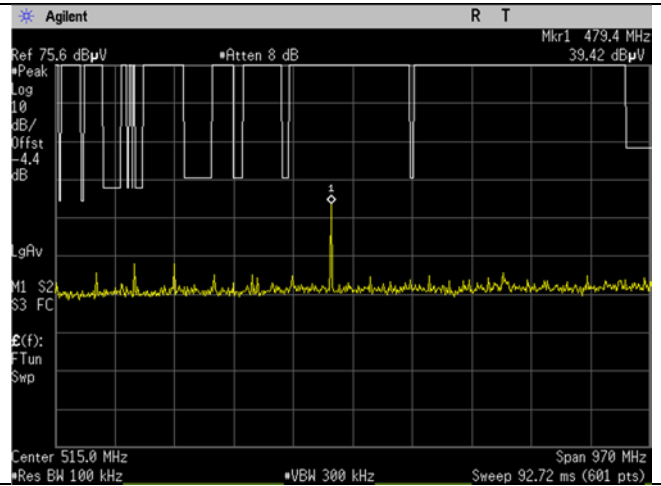
BLE_Mid Ch_2440MHz_2MBit_-20dBc_30MHz-
10GHz



BLE_Mid Ch_2440MHz_2MBit_15.209_1-26GHz
_Peak



BLE_Mid Ch_2440MHz_2MBit_15.209_1-26GHz avg



BLE_Mid Ch_2440MHz_2MBit_15.209_30-
1000MHz_Peak