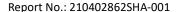


#### WCDMA-MIMO-2C

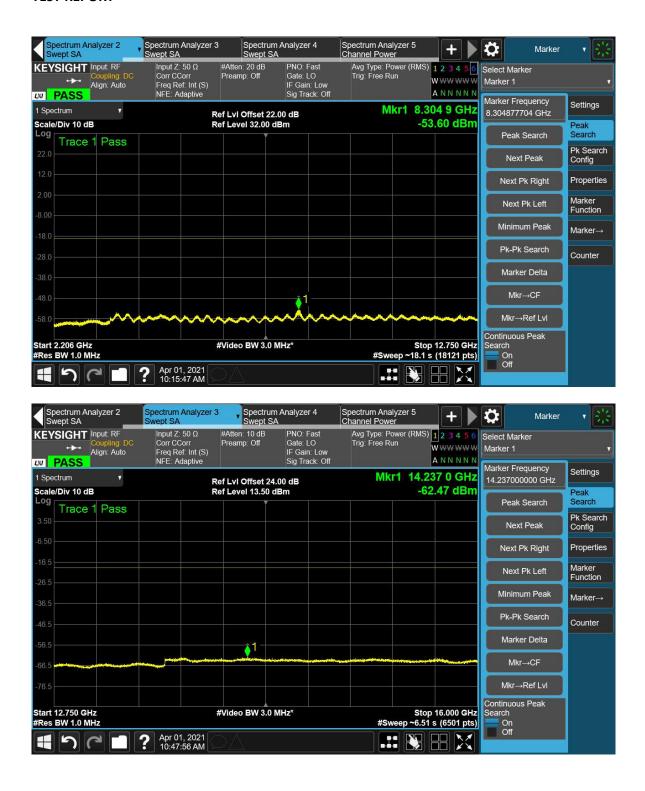
| Antenna Port | Channel  | annel WCDMA WCDMA |           | RBW   | Limit  |
|--------------|----------|-------------------|-----------|-------|--------|
|              | Position | Modulation        | Bandwidth | (kHz) | (dBm)  |
|              |          |                   | (MHz)     |       |        |
| В            | В        | 16QAM             | 5         | 1000  | -19.02 |
| В            | Т        | 16QAM             | 5         | 1000  | -19.02 |

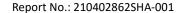
#### Channel Position B







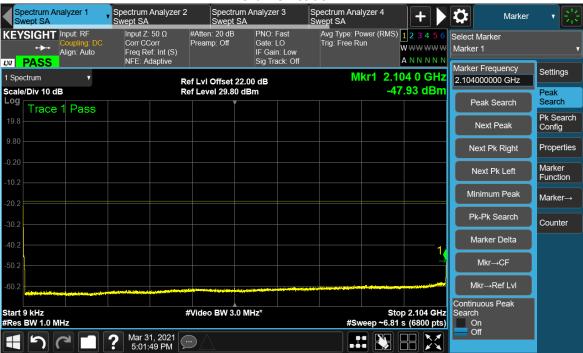


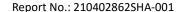




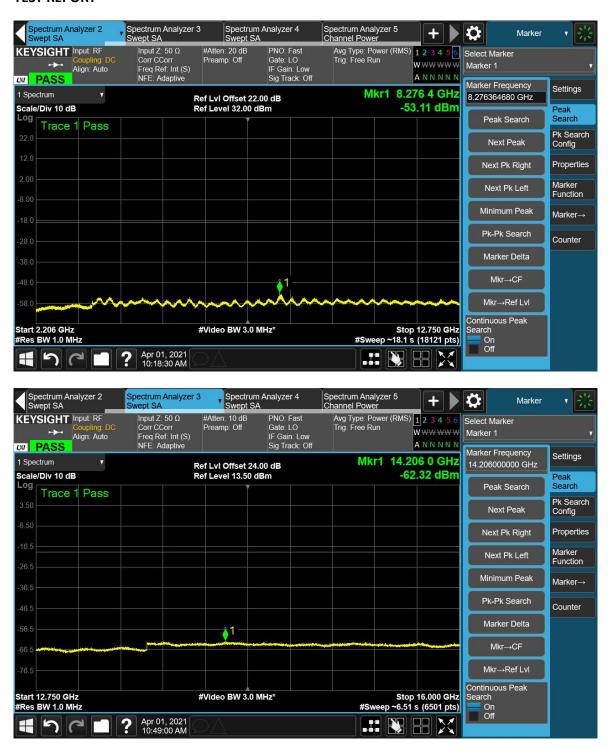


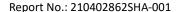
#### Channel Position T















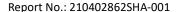
#### mix mode:

#### W+L+NR-MIMO-MC-1-UE

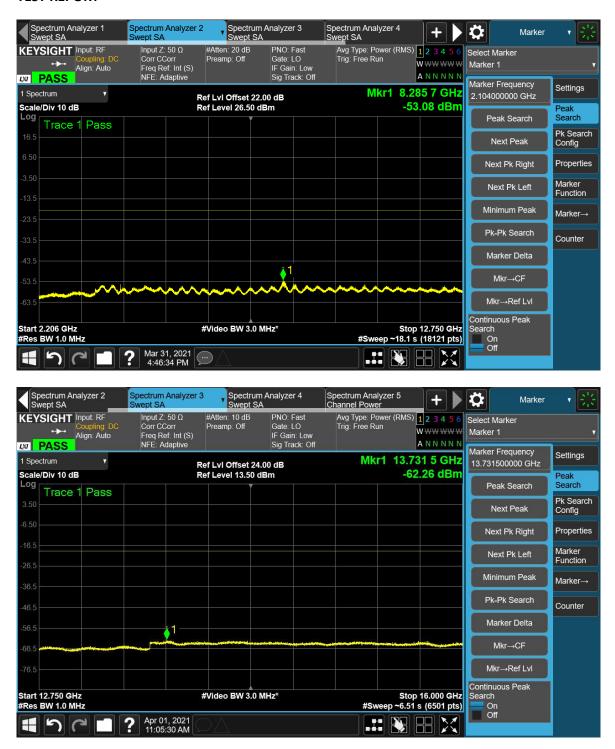
| Antenna | Channel  | NR & LTE   | NR Carrier      | LTE Carrier     | RBW   | Limit  |
|---------|----------|------------|-----------------|-----------------|-------|--------|
| Port    | Position | Modulation | Bandwidth (MHz) | Bandwidth (MHz) | (kHz) | (dBm)  |
| В       | В        | 16QAM      | 5               | 5               | 1000  | -19.02 |
| В       | Т        | 16QAM      | 5               | 5               | 1000  | -19.02 |

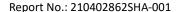
#### Channel Position B









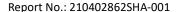




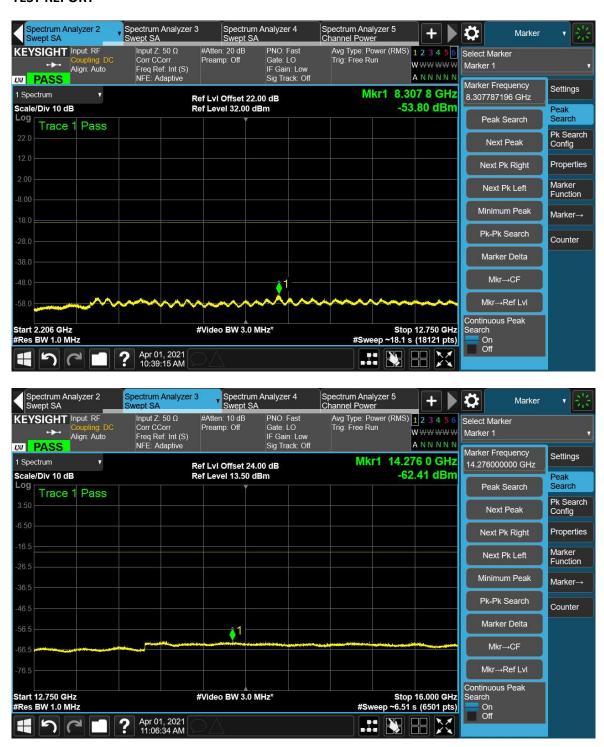


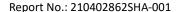
#### Channel Position T















#### NR+W+GB-MIMO-MC-1-UE

| Antenna | Channel  | NR         | NR Carrier | GB Carrier | RBW   | Limit  |
|---------|----------|------------|------------|------------|-------|--------|
| Port    | Position | Modulation | Bandwidth  | Bandwidth  | (kHz) | (dBm)  |
|         |          |            | (MHz)      | (MHz)      | , ,   | , ,    |
| В       | M        | 16QAM      | 5          | 10         | 1000  | -19.02 |

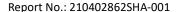
Channel Position M

#### Spectrum Analyzer 2 Spectrum Analyzer 3 Swept SA Spectrum Analyzer 4 Swept SA Spectrum Analyzer 1 Marker ent SA Avg Type: Power (RMS) 1 2 3 4 5 6 Trig: Free Run Input Z: 50 Ω Corr CCorr PNO: Fast Gate: LO IF Gain: Low Sig Track: Off #Atten: 20 dB KEYSIGHT Input: RF Select Marker Preamp: Off Align: Auto **w** ww ww w Marker 1 Freq Ref: Int (S) NFE: Adaptive DI PASS Marker Frequency Settings Mkr1 2.104 0 GHz 1 Spectrum 2.104000000 GHz Ref Lvi Offset 22.00 dB -39.04 dBm Scale/Div 10 dB Ref Level 29.80 dBm Peak Search Search Pass Trace Pk Search Next Peak Config Next Pk Right Properties Marker Next Pk Left Function Minimum Peak Marker→ Pk-Pk Search Counter Marker Delta Mkr→CF Mkr→Ref Lvl Continuous Peak Stop 2.104 GHz #Sweep ~6.81 s (6800 pts) #Video BW 3.0 MHz\* Search Start 9 kHz #Res BW 1.0 MHz On Off

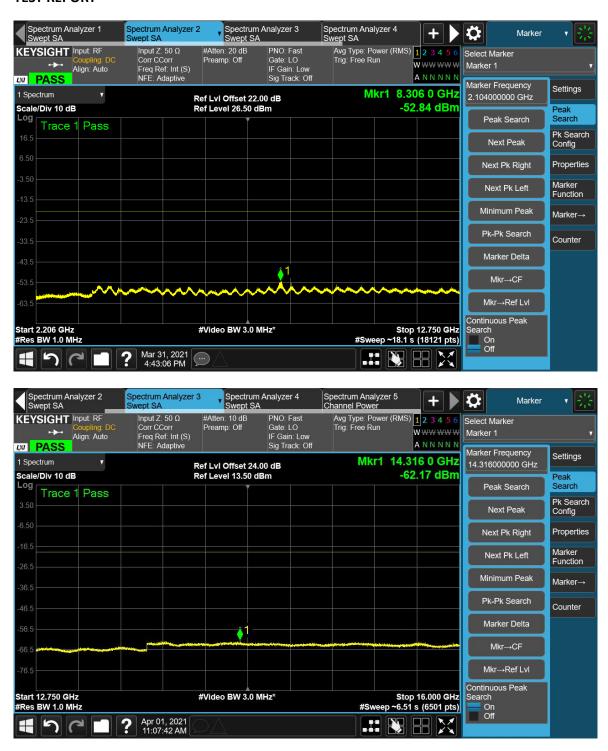
Mar 31, 2021 4:41:15 PM

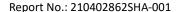
?

**F** F

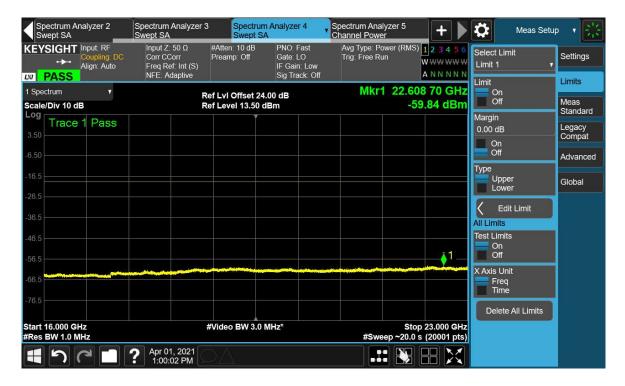










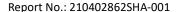


#### GB+NR+L+SA-MIMO-MC-1-UE

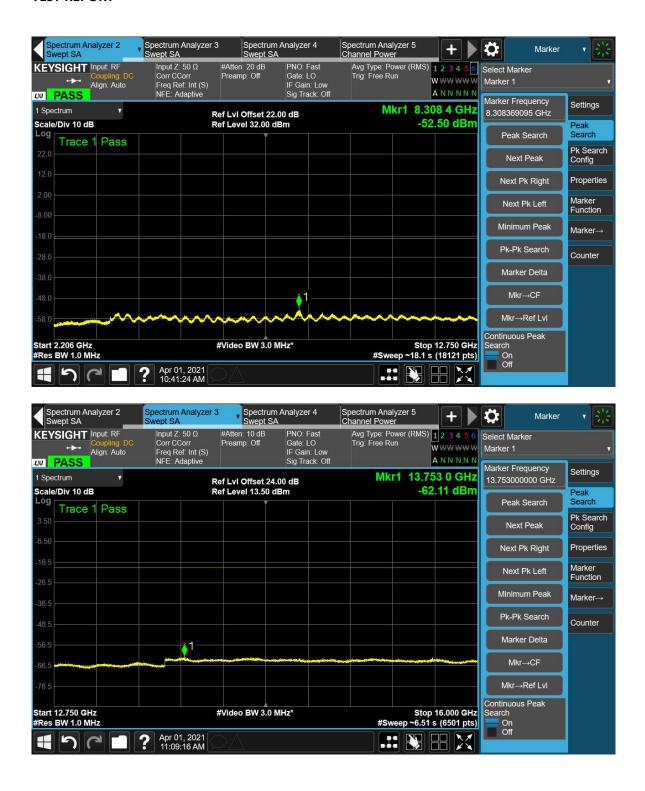
| Antenna | Channel  | NR & LTE   | GB Carrier | SA Carrier | RBW   | Limit  |
|---------|----------|------------|------------|------------|-------|--------|
| Port    | Position | Modulation | Bandwidth  | Bandwidth  | (kHz) | (dBm)  |
|         |          |            | (MHz)      | (MHz)      |       |        |
| В       | М        | 16QAM      | 10         | 0.2        | 1000  | -19.02 |

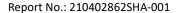
### Channel Position M



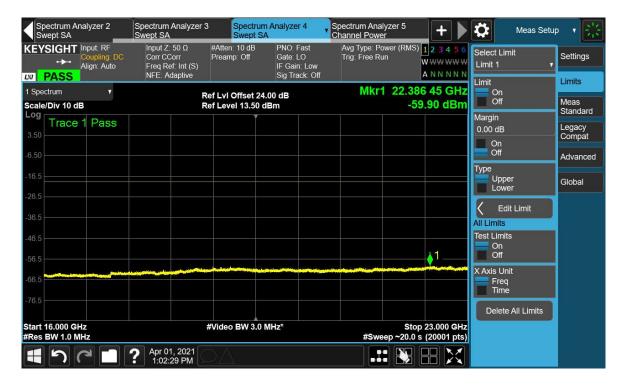








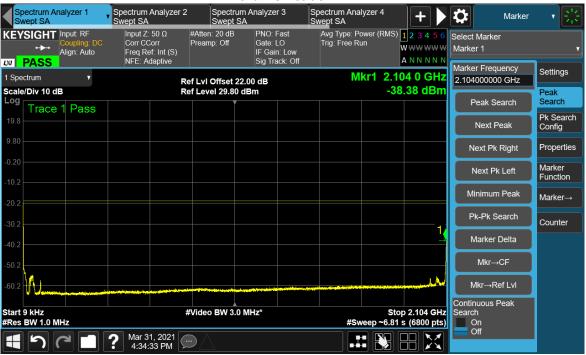


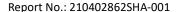


#### SA+W+L-MIMO-MC-1-UE

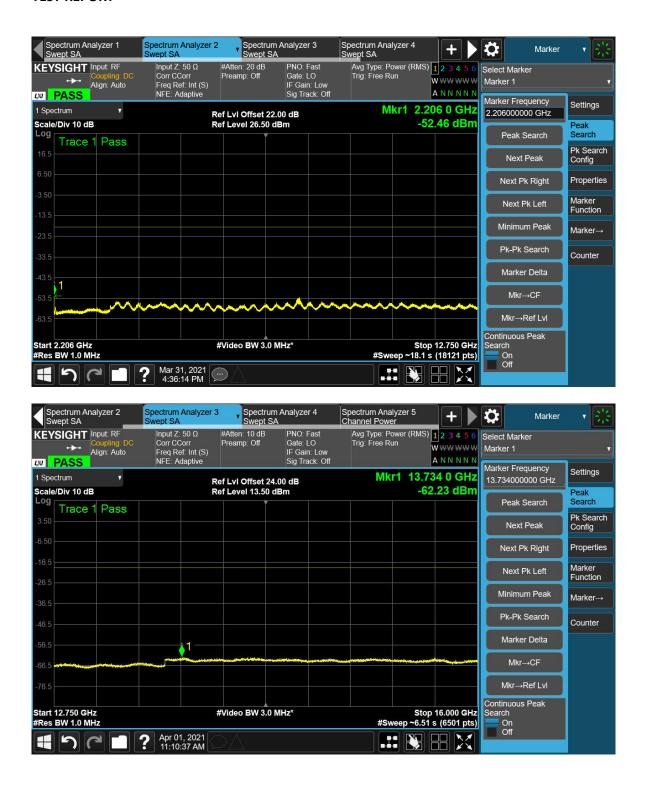
| A | Antenna | Channel  | LTE        | SA Channel | LTE Channel | RBW   | Limit  |
|---|---------|----------|------------|------------|-------------|-------|--------|
|   | Port    | Position | Modulation | Bandwidth  | Bandwidth   | (kHz) | (dBm)  |
|   |         |          |            | (MHz)      | (MHz)       |       |        |
|   | В       | M        | 16QAM      | 0.2        | 5           | 1000  | -19.02 |

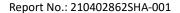
# Channel Position M













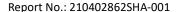


#### SA+L-MIMO-MC-1-UE

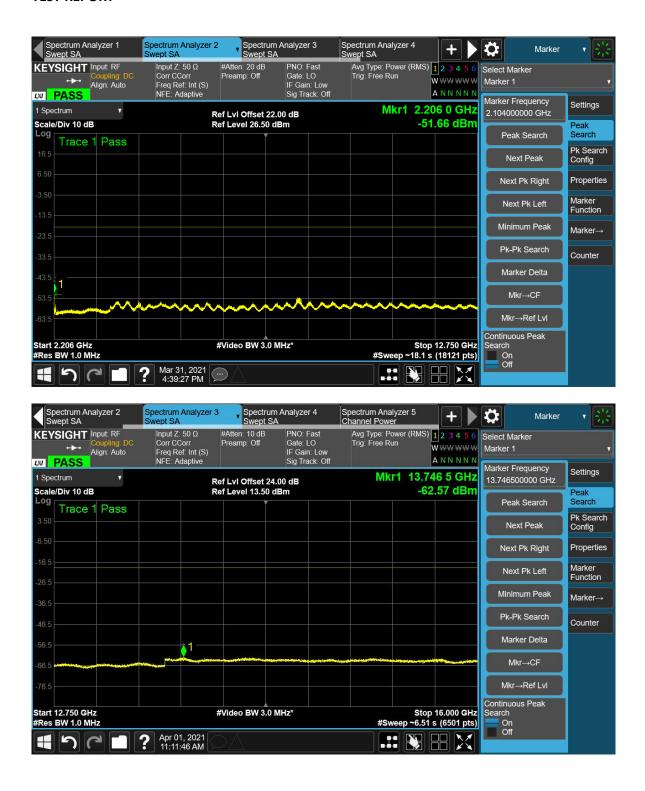
| O, 1 = 1111111 |          |            |            |             |       |        |
|----------------|----------|------------|------------|-------------|-------|--------|
| Antenna        | Channel  | LTE        | SA Channel | LTE Channel | RBW   | Limit  |
| Port           | Position | Modulation | Bandwidth  | Bandwidth   | (kHz) | (dBm)  |
|                |          |            | (MHz)      | (MHz)       |       |        |
| В              | В        | 16QAM      | 0.2        | 5           | 1000  | -19.02 |

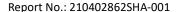
#### Channel Position M

















Report No.: 210402862SHA-001

### 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).

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

Where

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

Po 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 43 + 10log(P) dB.

Therefore, the limit at 3m measurement distance is:

 $E(V/m) = 84.4 dB\mu V/m$ 

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 40GHz 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:

Field Strength of Carrier - (43 + 10Log (P)) dB

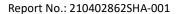
Where:

Field Strength is measured in dBµV/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.

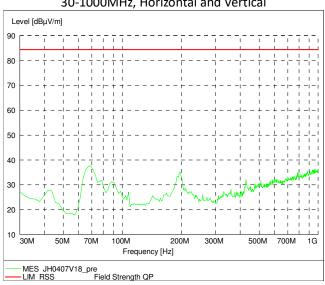




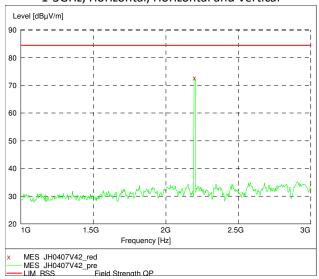
## 7.3 Measurement result

| Configuration | Channel Position | Carrier   | Carrier Bandwidth | Modulation |
|---------------|------------------|-----------|-------------------|------------|
| NR-MIMO-1C-UE | В                | 1 Carrier | 5MHz              | 16QAM      |
| NR-MIMO-1C-UE | Т                | 1 Carrier | 5MHz              | 16QAM      |

30-1000MHz, Horizontal and Vertical

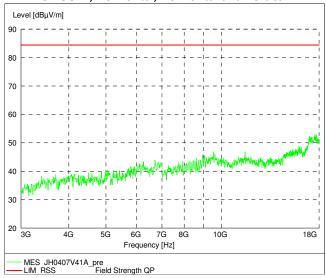


1-3GHz, Horizontal, Horizontal and Vertical





### 3-18GHz, Horizontal, Horizontal and Vertical



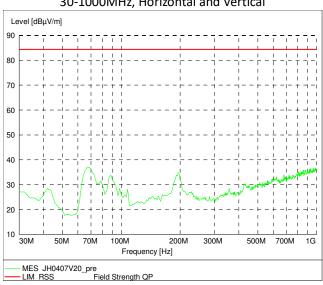
### 18-23GHz, Horizontal, Horizontal and Vertical



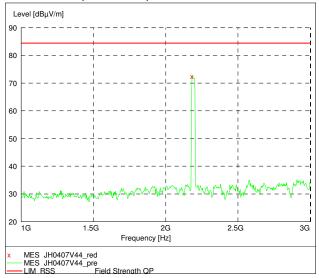


| Configuration | Channel Position | Carrier   | Carrier Bandwidth | Modulation |
|---------------|------------------|-----------|-------------------|------------|
| NR-MIMO-1C-UE | В                | 1 Carrier | 20MHz             | 16QAM      |
| NR-MIMO-1C-UE | Т                | 1 Carrier | 20MHz             | 16QAM      |

### 30-1000MHz, Horizontal and Vertical

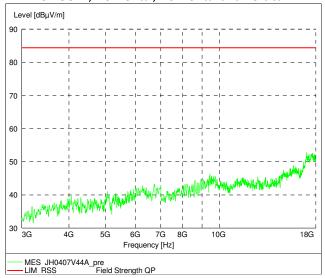


## 1-3GHz, Horizontal, Horizontal and Vertical





### 3-18GHz, Horizontal, Horizontal and Vertical



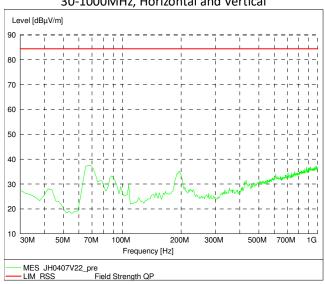
### 18-23GHz, Horizontal, Horizontal and Vertical



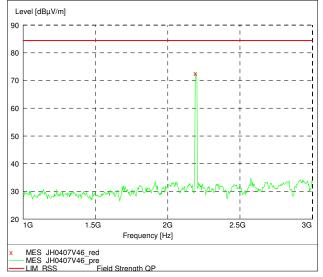


| Configuration | Channel Position | Carrier   | Carrier Bandwidth | Modulation |
|---------------|------------------|-----------|-------------------|------------|
| NR-MIMO-2C-UE | В                | 1 Carrier | 5MHz              | 16QAM      |
| NR-MIMO-2C-UE | Т                | 1 Carrier | 5MHz              | 16QAM      |



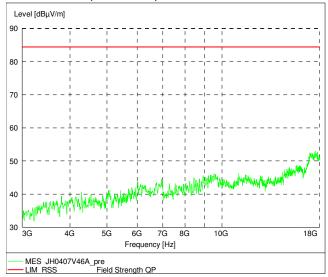


### 1-3GHz, Horizontal, Horizontal and Vertical





### 3-18GHz, Horizontal, Horizontal and Vertical



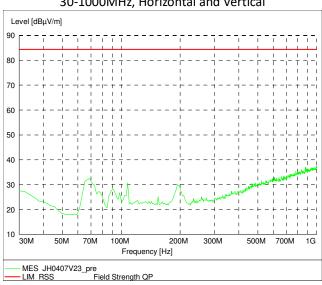
### 18-23GHz, Horizontal, Horizontal and Vertical



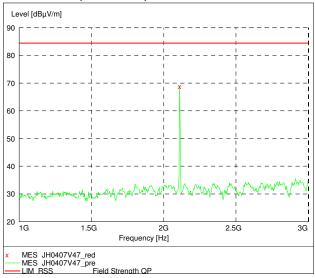


| Configuration | Channel Position | Carrier   | Carrier Bandwidth | Modulation |
|---------------|------------------|-----------|-------------------|------------|
| NB-SA-1C-UE   | В                | 1 Carrier | 0.2MHz            | QPSK       |
| NB-SA-1C-UE   | Т                | 1 Carrier | 0.2MHz            | QPSK       |

### 30-1000MHz, Horizontal and Vertical

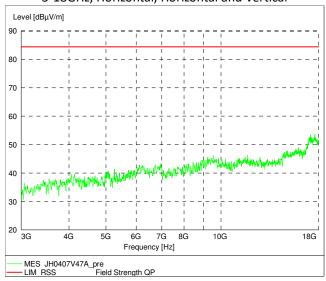


## 1-3GHz, Horizontal, Horizontal and Vertical





### 3-18GHz, Horizontal, Horizontal and Vertical



### 18-23GHz, Horizontal, Horizontal and Vertical

