

**Annex acc. to FCC Title 47 CFR Part 15  
relating to  
s.m.s, smart microwave sensors GmbH  
UMRR-12 Type 48 B**

## **Annex no. 13 Radiated emission limits**

**Title 47 - Telecommunication  
Part 15 - Radio Frequency Devices  
Subpart C – Intentional Radiators  
Measurement Procedure:  
ANSI C63.4-2014  
ANSI C63.10-2013**

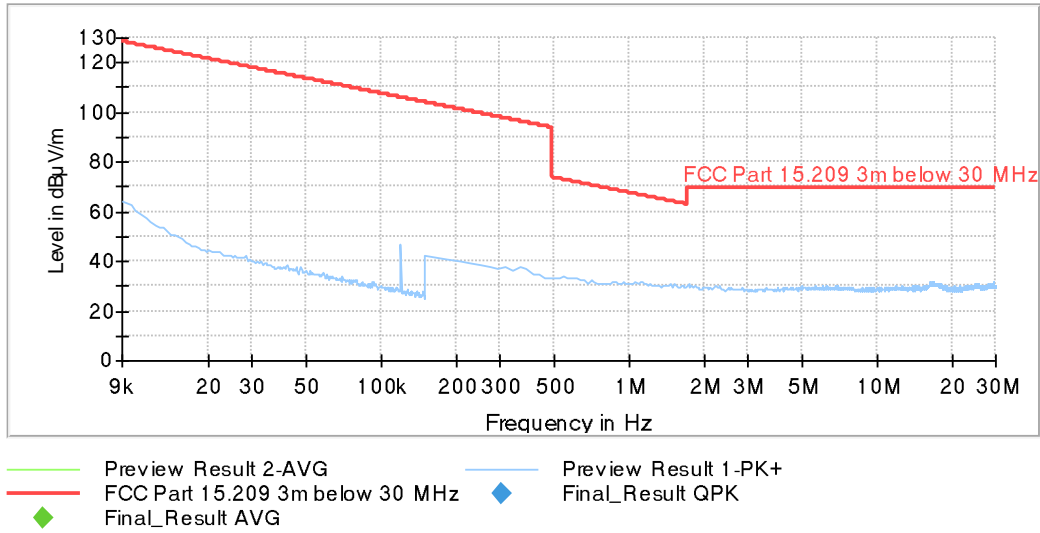


Deutsche  
Akkreditierungsstelle  
D-PL-12053-01-03

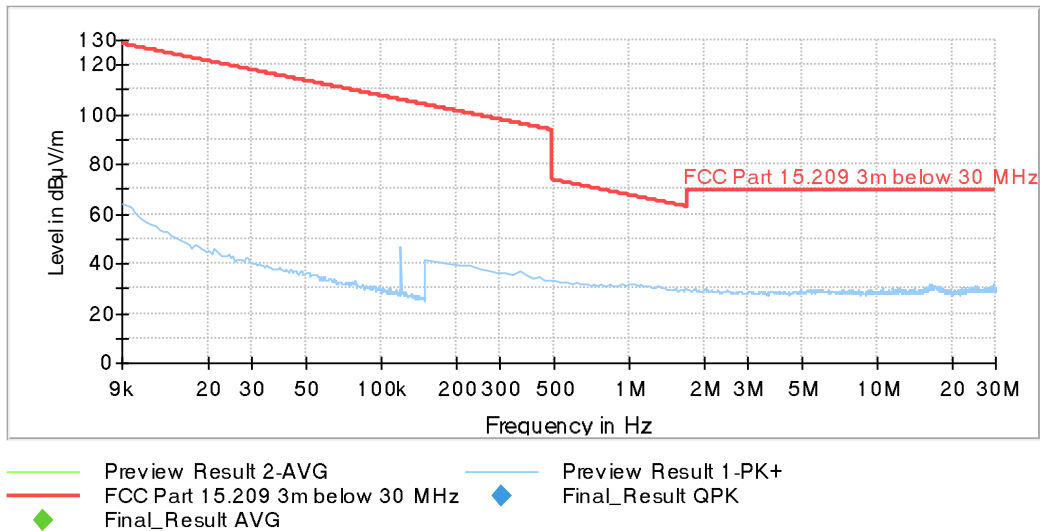
**Graphs of test results**

**1 Radiated emissions 9 kHz to 30 MHz**

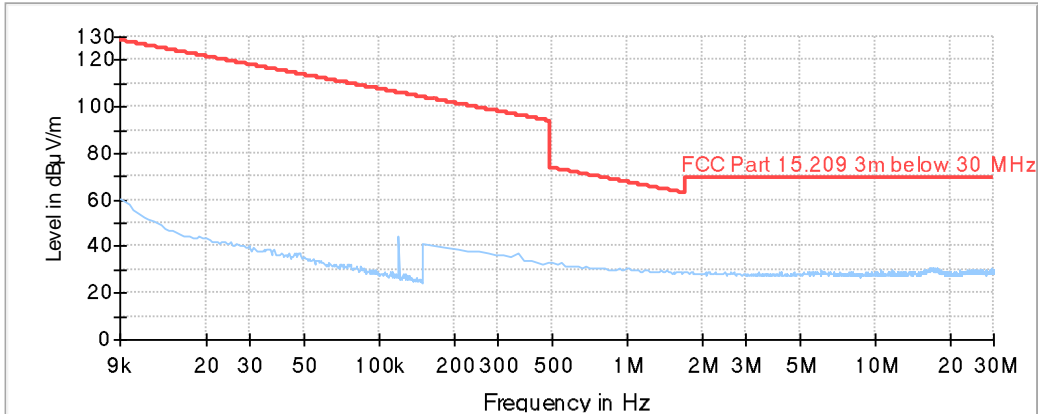
**1.1 Operation mode OP 1**



**1.2 Operation mode OP 2**

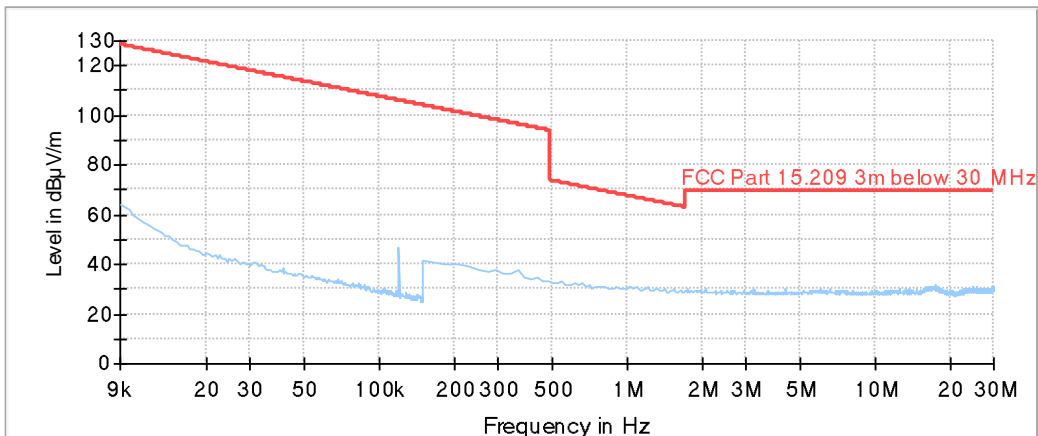


**1.3 Operation mode OP 3**



- Preview Result 2-AVG
- Preview Result 1-PK+
- FCC Part 15.209 3m below 30 MHz
- Fina\_Result AVG
- Preview Result 1-PK+ AVG
- Fina\_Result QPK

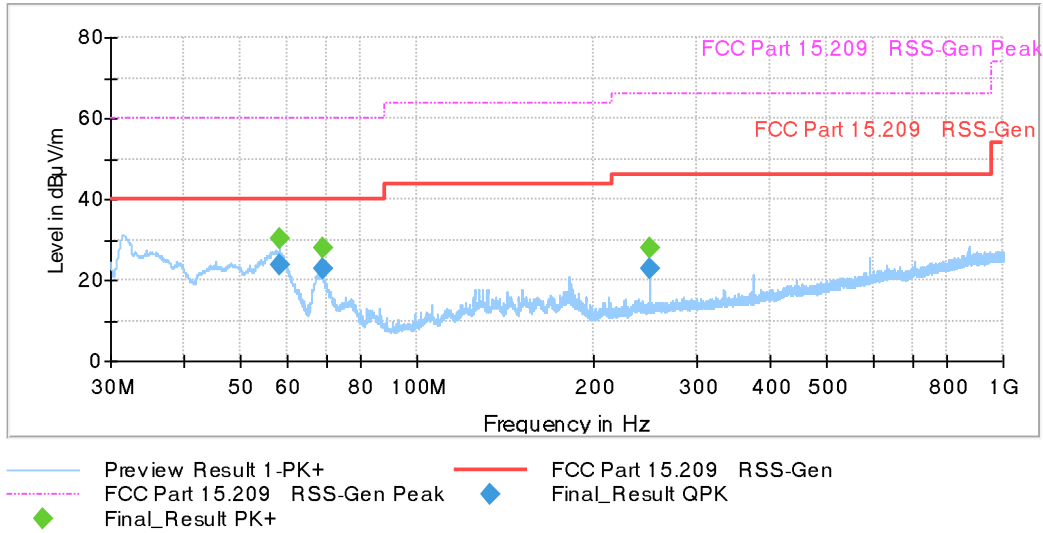
**1.4 Operation mode OP 4**



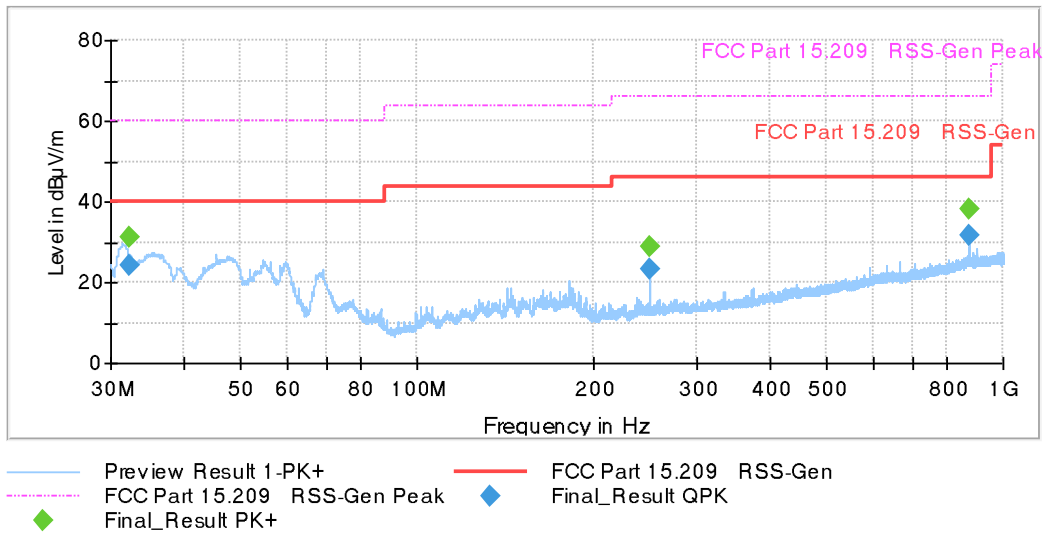
- Preview Result 2-AVG
- Preview Result 1-PK+
- FCC Part 15.209 3m below 30 MHz
- Fina\_Result AVG
- Preview Result 1-PK+ AVG
- Fina\_Result QPK

## 2 Radiated emissions 30 MHz to 1 GHz

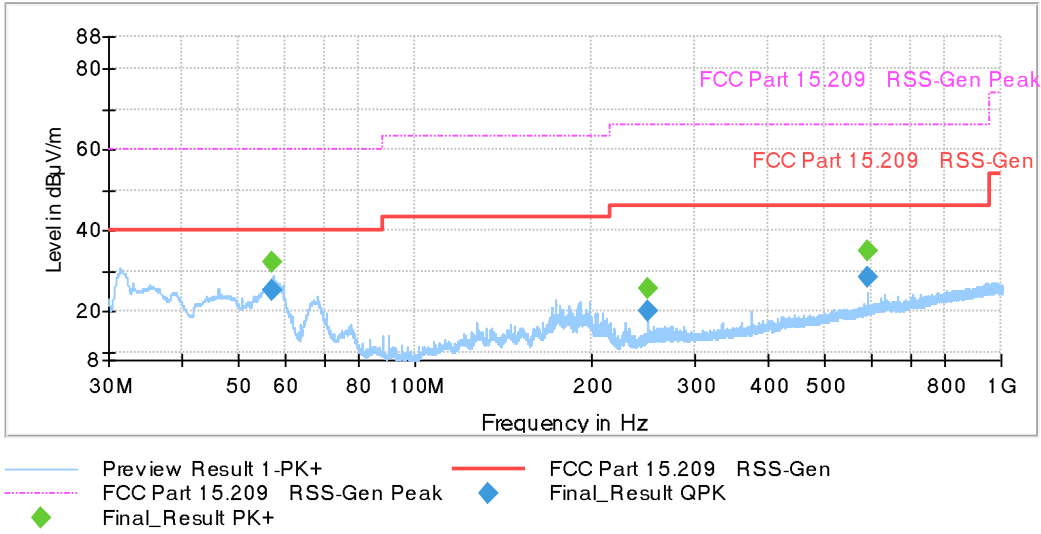
### 2.1 Operation mode OP 1



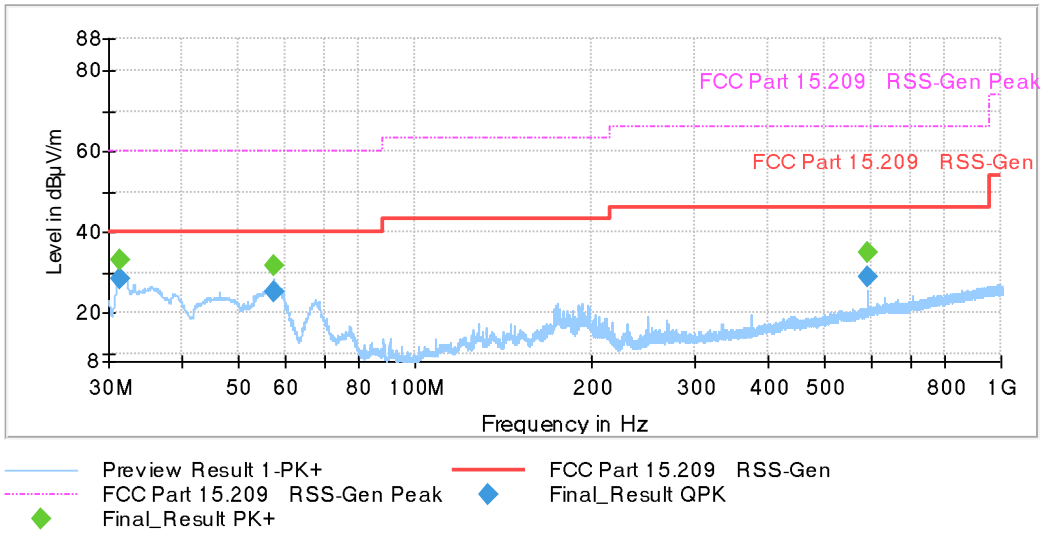
### 2.2 Operation mode OP 2



**2.3 Operation mode OP 3**

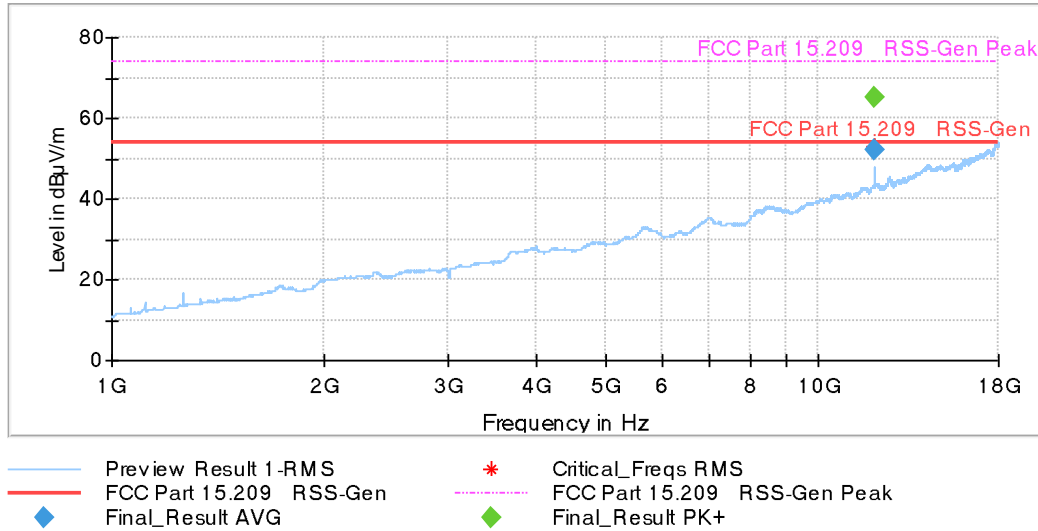


**2.4 Operation mode OP 4**

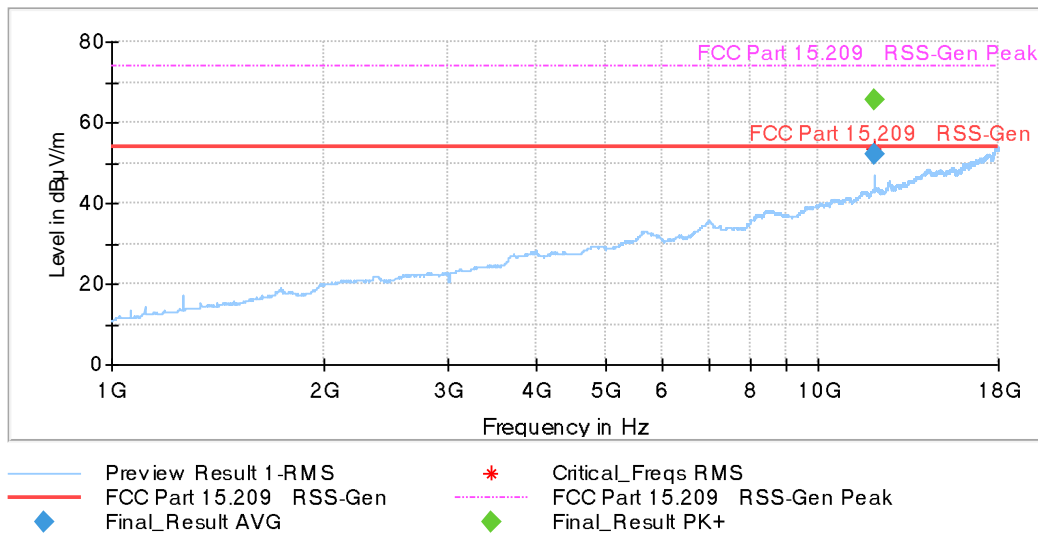


### 3 Radiated emissions 1 GHz – 18 GHz

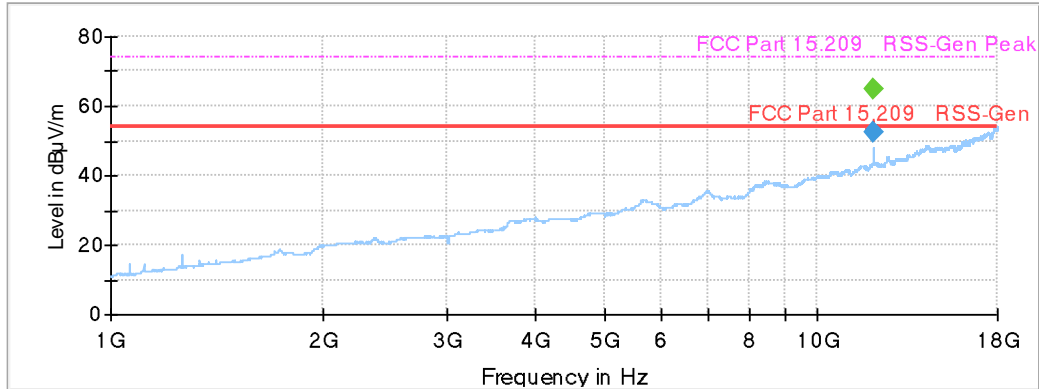
#### 3.1 Operation mode OP 1



#### 3.2 Operation mode OP 2

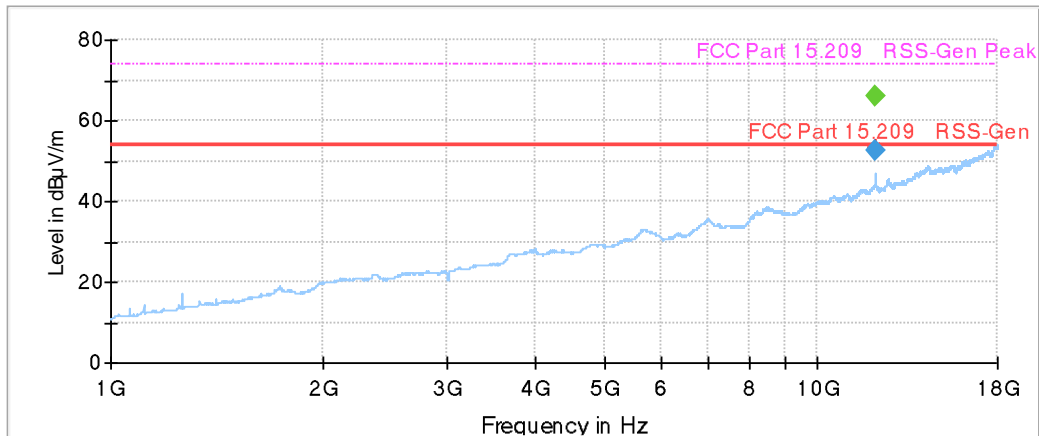


**3.3 Operation mode OP 3**



- |                           |                                    |
|---------------------------|------------------------------------|
| — Preview Result 1-RMS    | * Critical_Freqs RMS               |
| — FCC Part 15.209 RSS-Gen | - - - FCC Part 15.209 RSS-Gen Peak |
| ◆ Final_Result AVG        | ◆ Final_Result PK+                 |
| × MaxPeak-PK+ (Single)    | + Average-AVG (Single)             |
| × RMS (Single)            |                                    |

**3.4 Operation mode OP 4**



- |                           |                                    |
|---------------------------|------------------------------------|
| — Preview Result 1-RMS    | * Critical_Freqs RMS               |
| — FCC Part 15.209 RSS-Gen | - - - FCC Part 15.209 RSS-Gen Peak |
| ◆ Final_Result AVG        | ◆ Final_Result PK+                 |



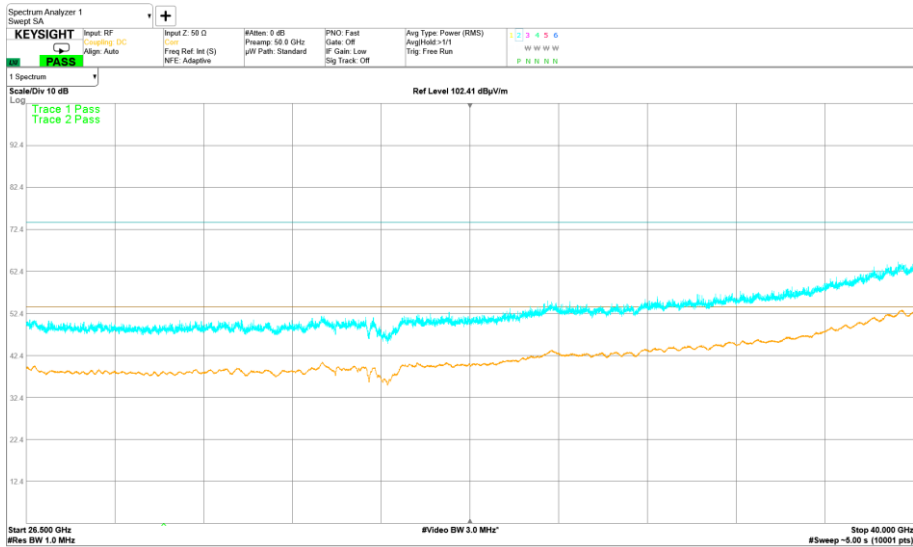




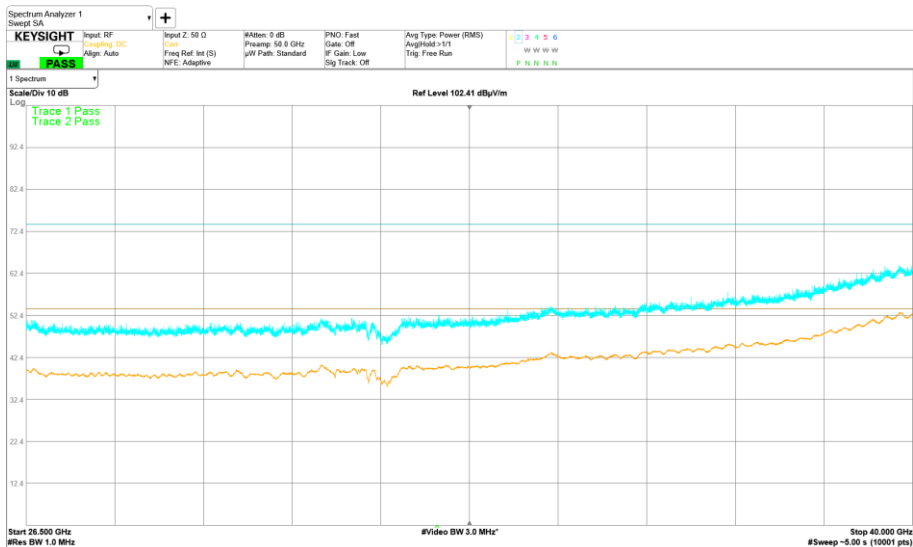
## 5 Radiated emissions 26.5 GHz to 40 GHz

The upper line is for the peak detector limit and the lower line is for the average detector limit (FCC Part 15.209)

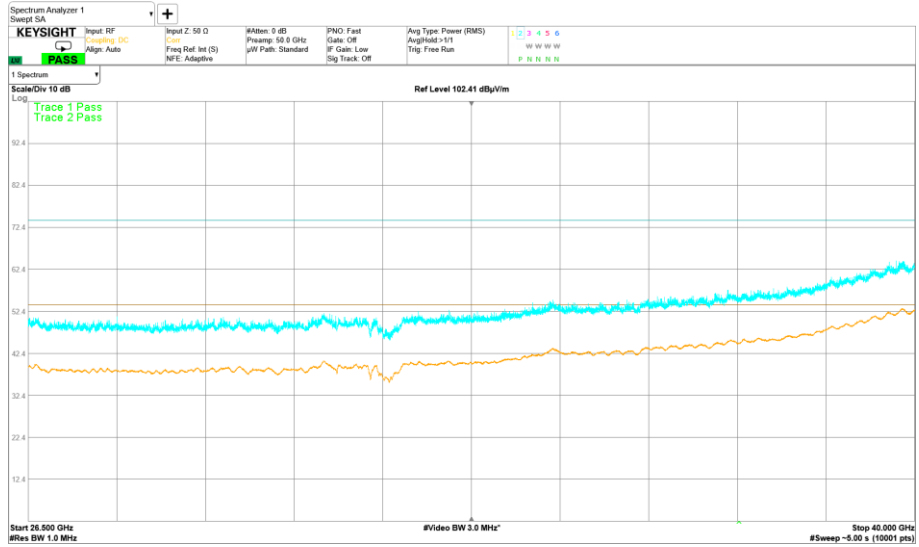
### 5.1 Operation mode OP 1 Horizontal



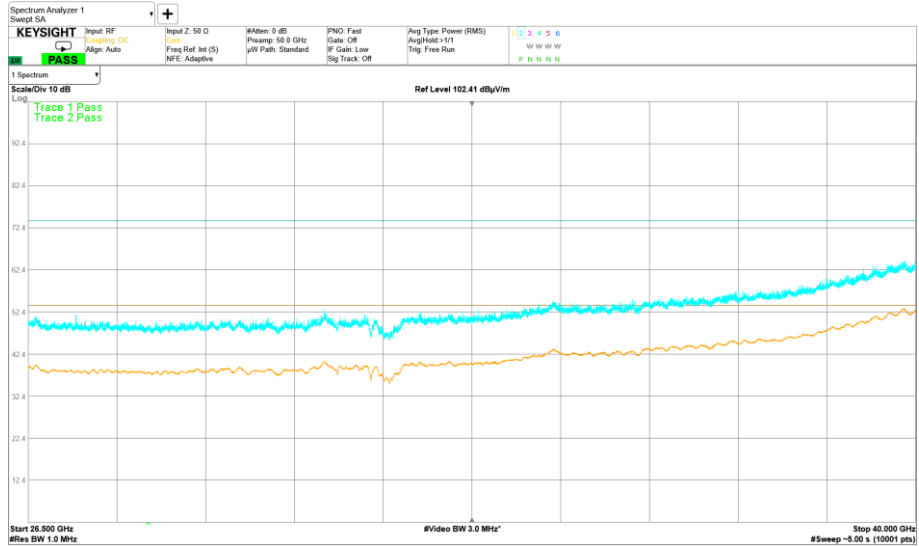
### 5.2 Operation mode OP 1 Vertikal



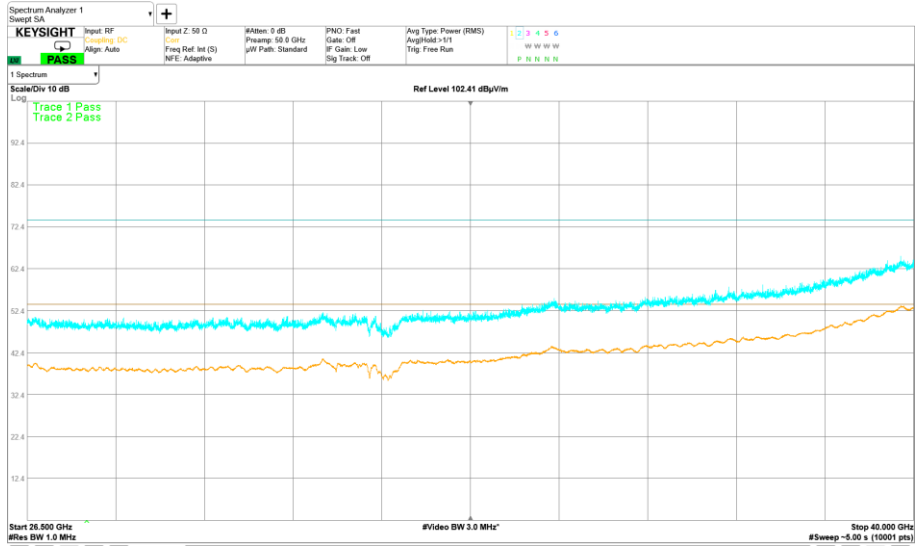
**5.3 Operation mode OP 2 Horizontal**



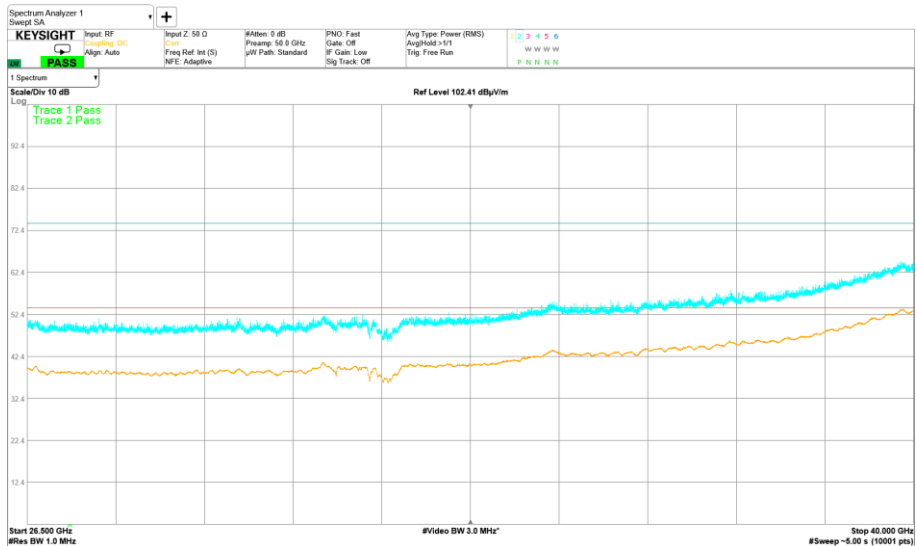
**5.4 Operation mode OP 2 Vertikal**



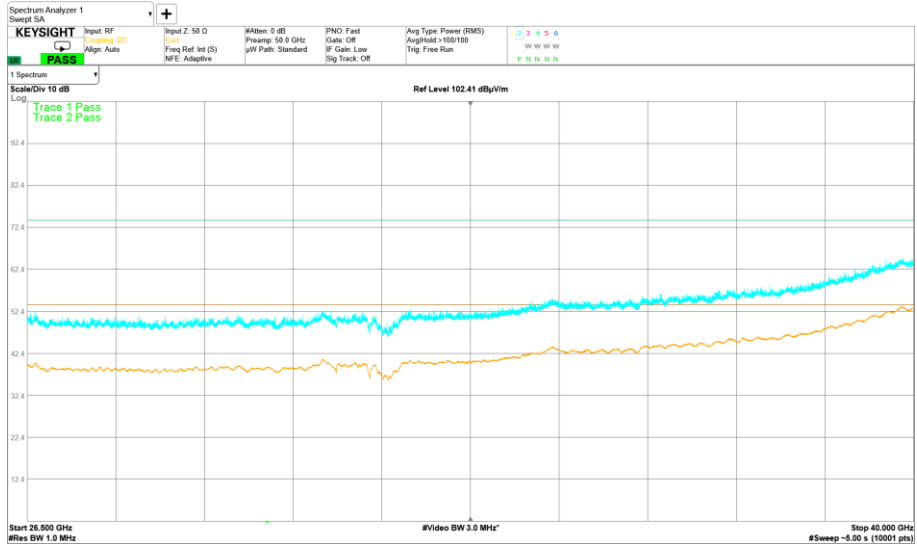
### 5.5 Operation mode OP 3 Horizontal



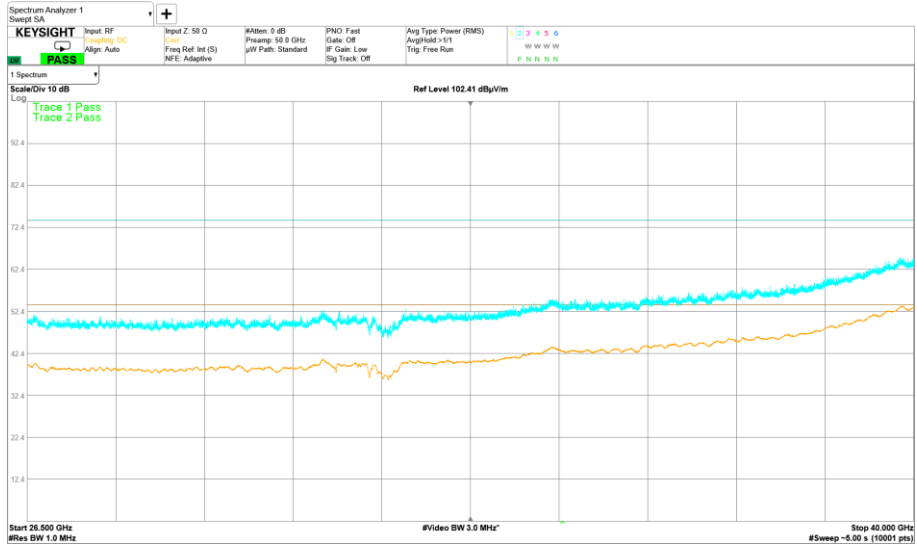
### 5.6 Operation mode OP 3 Vertikal



**5.7 Operation mode OP 4 Horizontal**

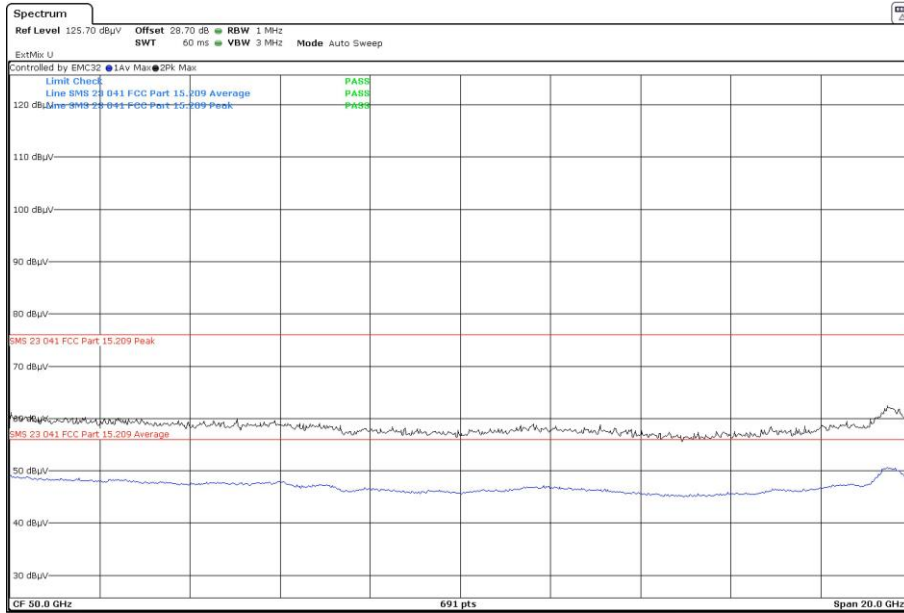


**5.8 Operation mode OP 4 Vertikal**

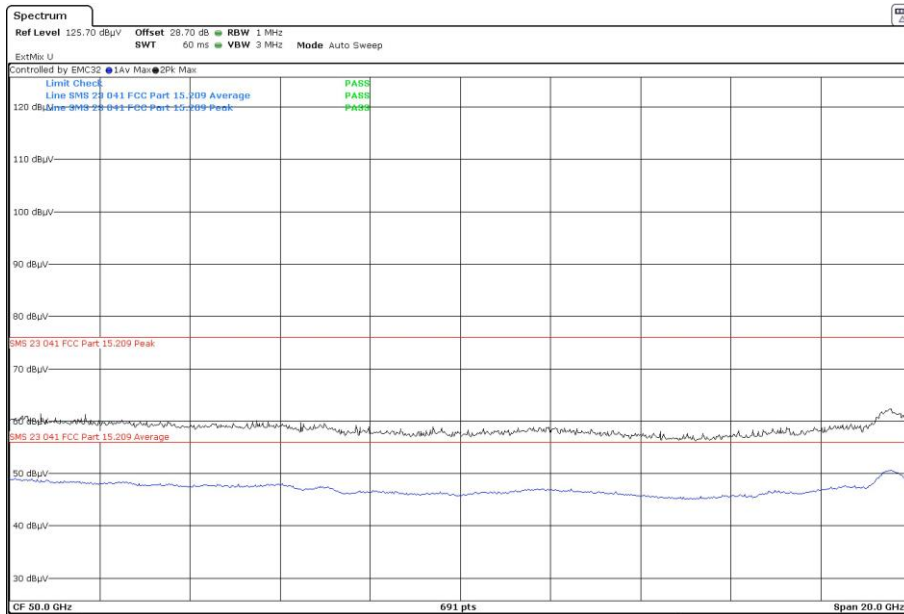


## 6 Radiated emissions 40 GHz to 60 GHz

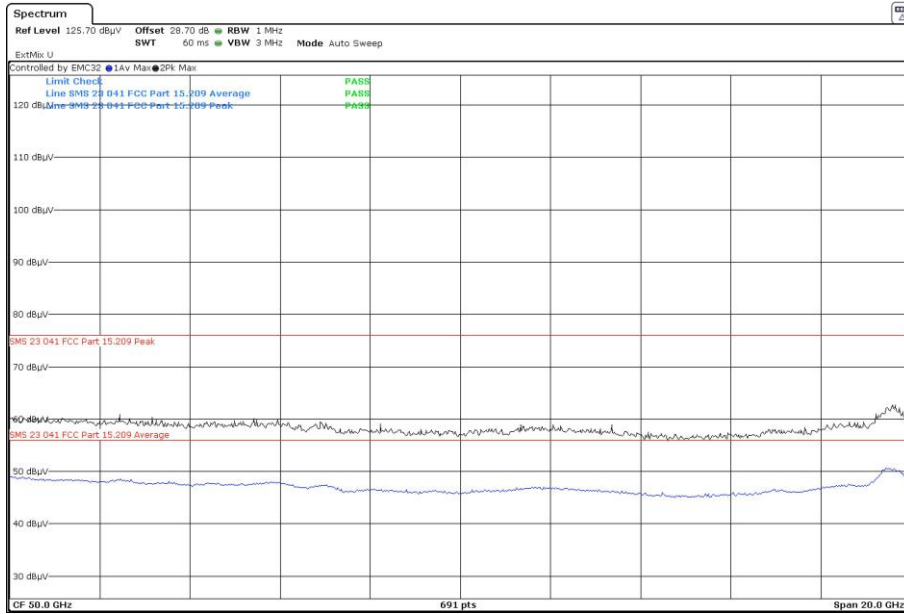
### 6.1 Operation mode OP 1 Horizontal



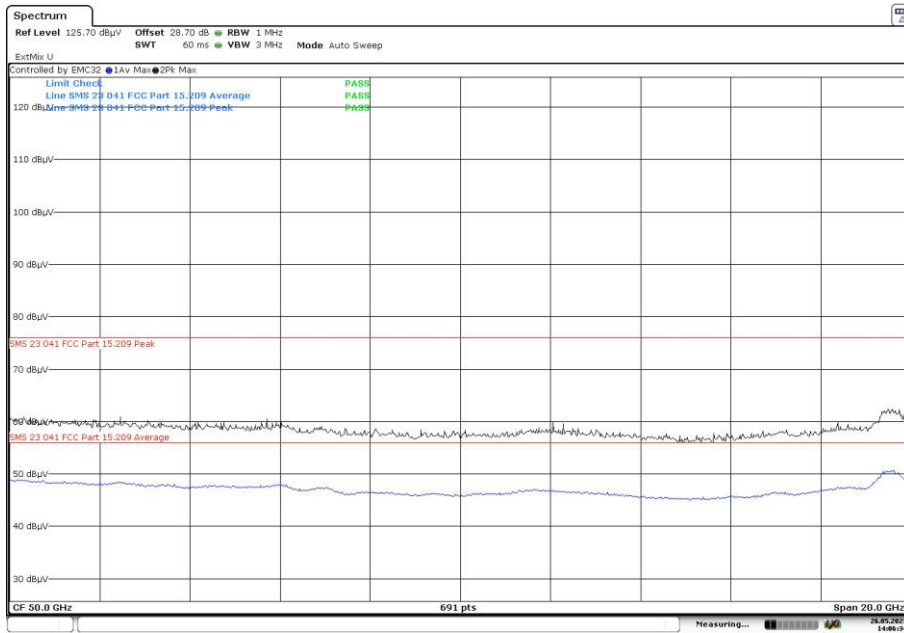
### 6.2 Operation mode OP 1 Vertikal



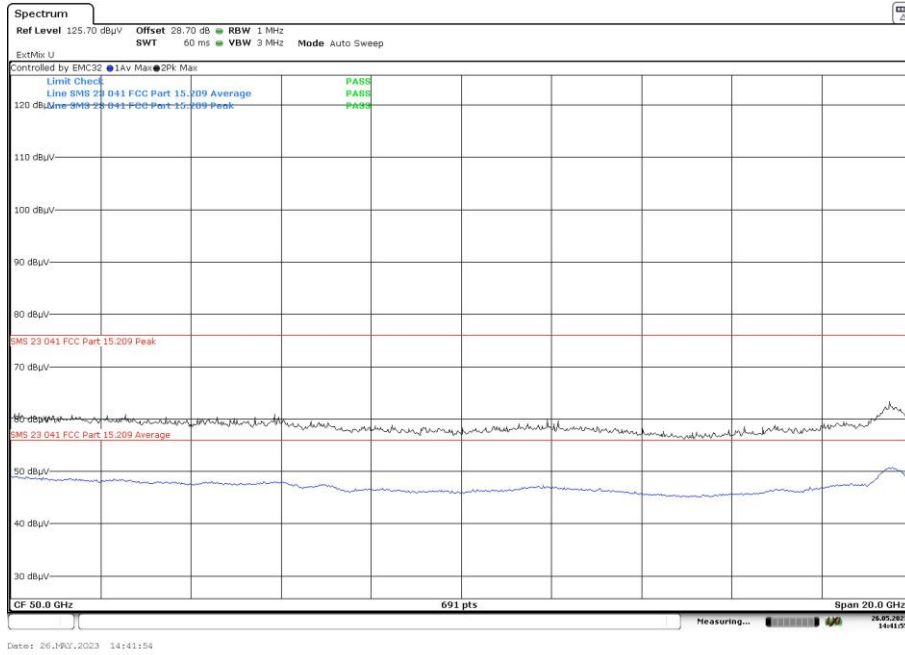
### 6.3 Operation mode OP 2 Horizontal



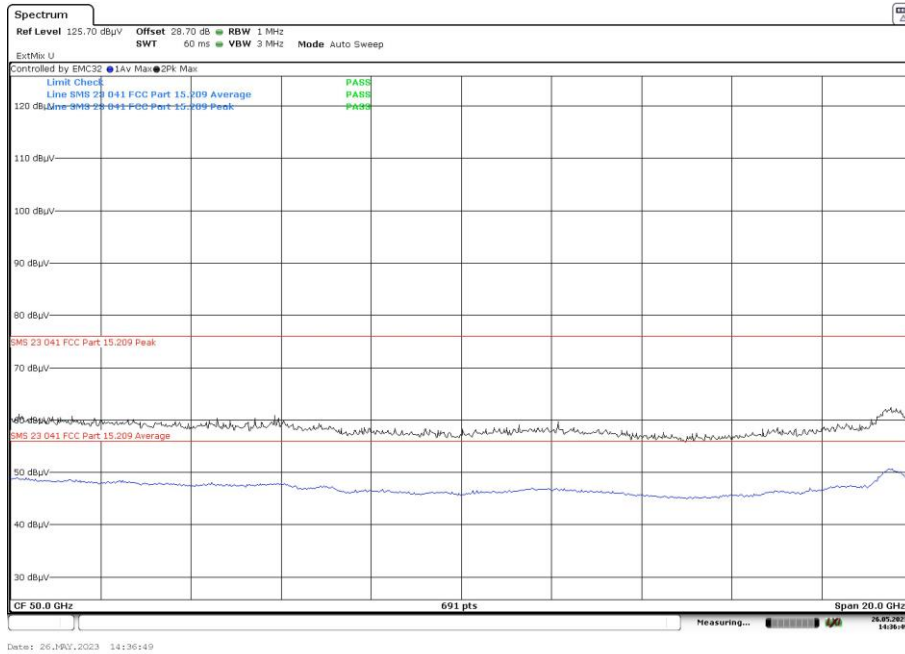
### 6.4 Operation mode OP 2 Vertikal



6.5 Operation mode OP 3 Horizontal

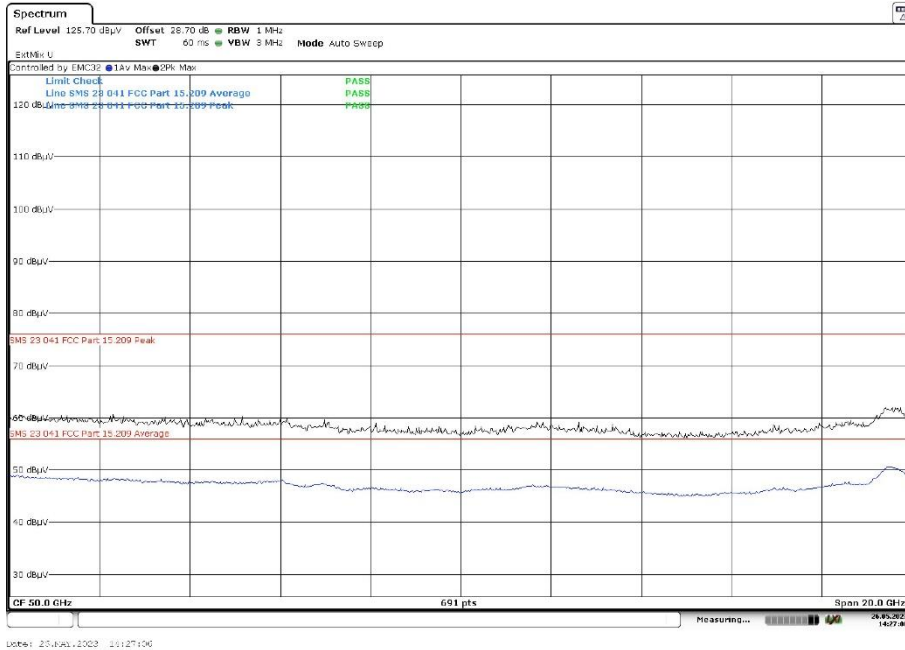


6.6 Operation mode OP 3 Vertikal

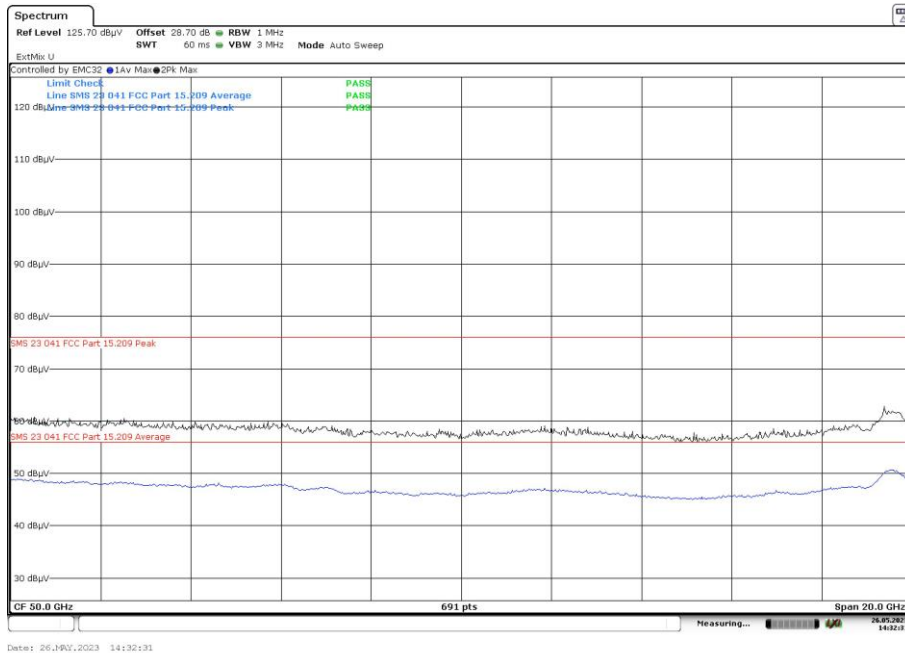




6.7 Operation mode OP 4 Horizontal



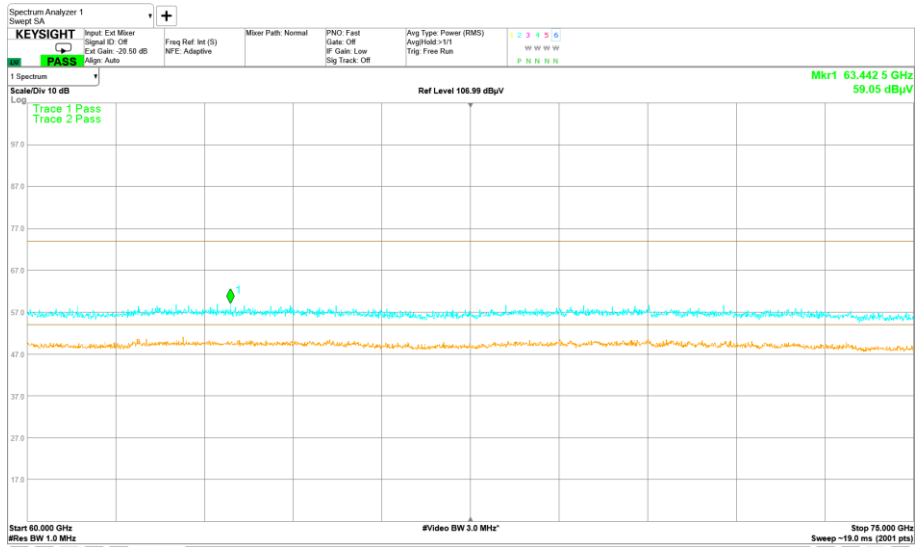
6.8 Operation mode OP 4 Vertikal



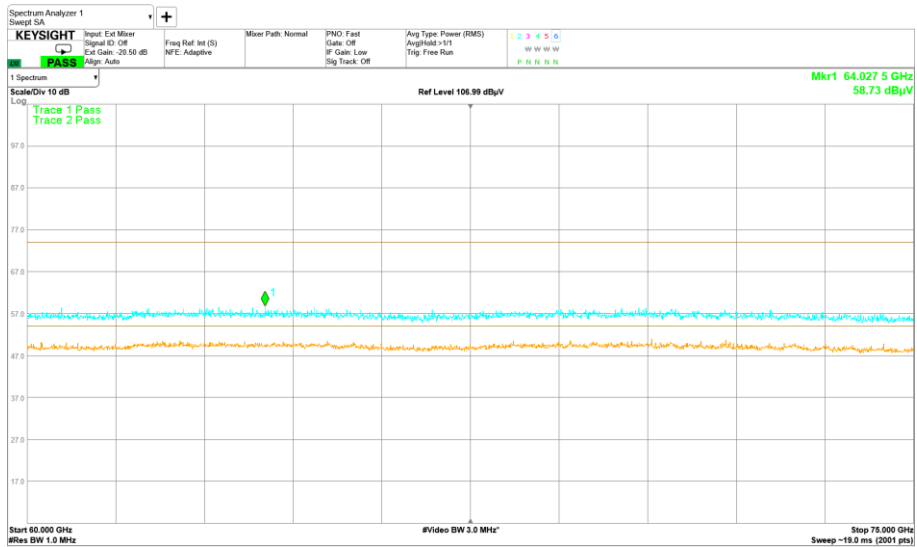
## 7 Radiated emissions 60 GHz 75 GHz

The upper line is for the peak detector limit and the lower line is for the average detector limit (FCC Part 15.209)

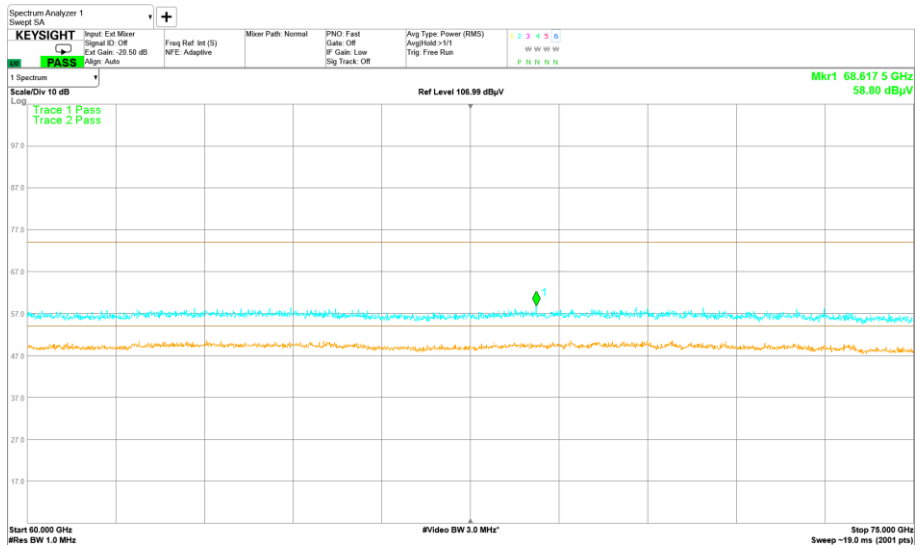
### 7.1 Operation mode OP 1 Horizontal



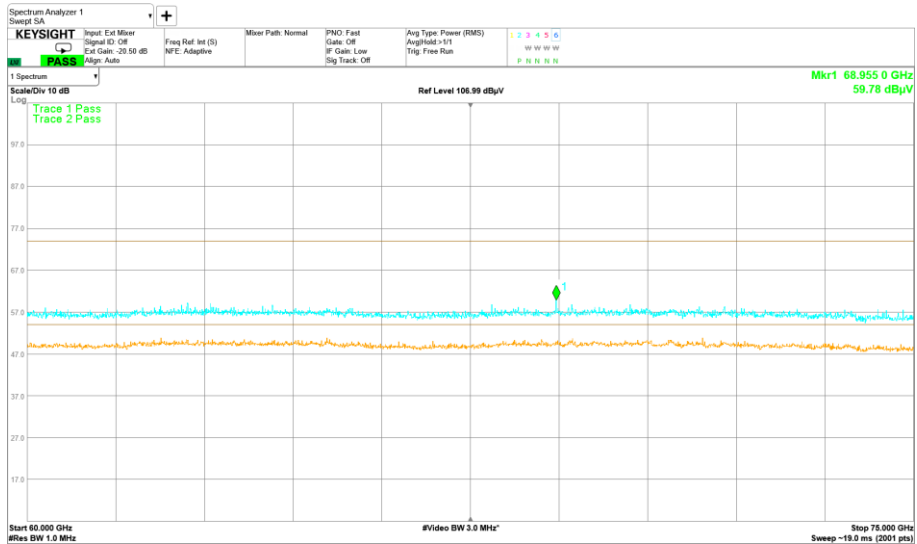
### 7.2 Operation mode OP 1 Vertikal



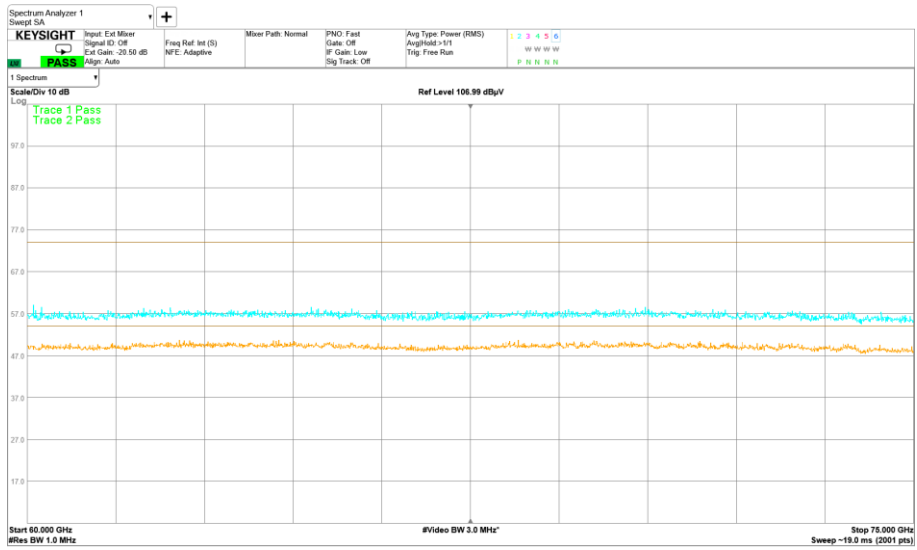
7.3 Operation mode OP 2 Horizontal



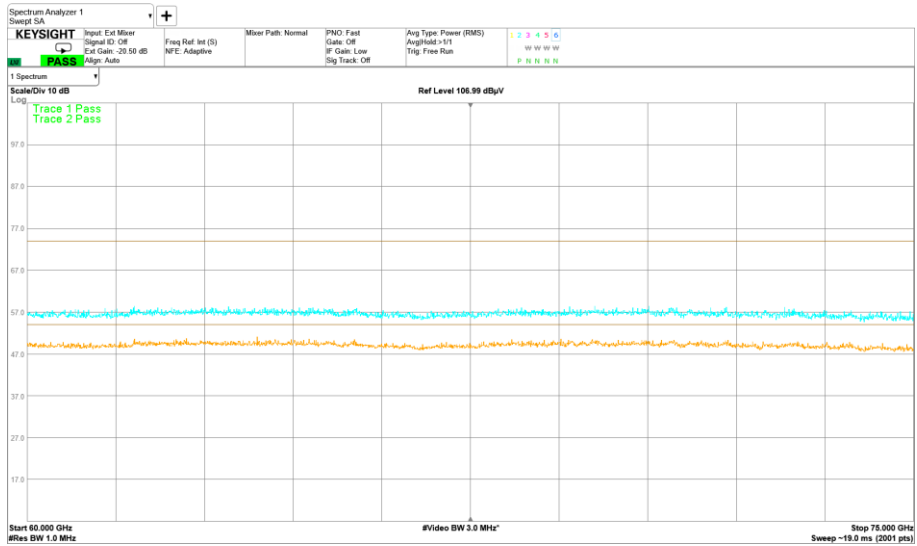
7.4 Operation mode OP 2 Vertikal



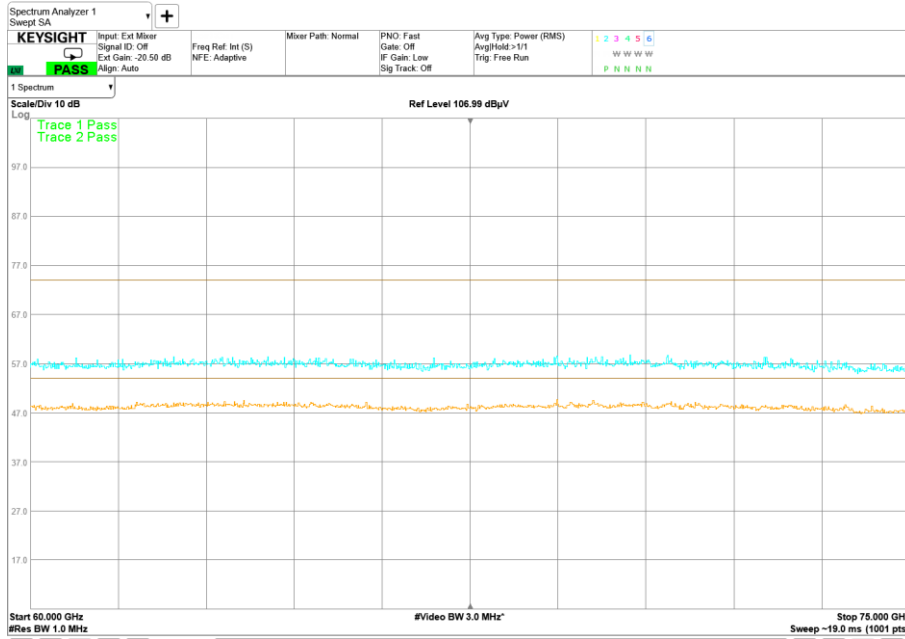
### 7.5 Operation mode OP 3 Horizontal



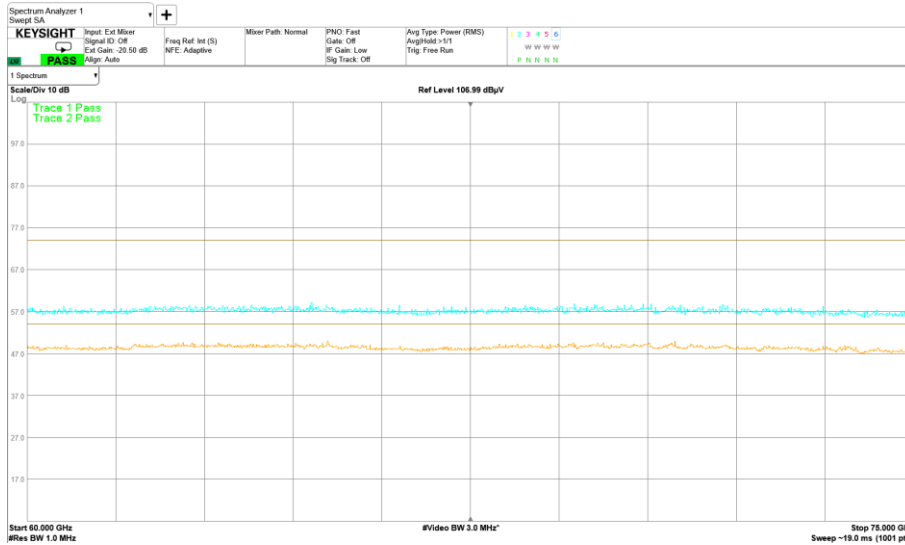
### 7.6 Operation mode OP 3 Vertikal



**7.7 Operation mode OP 4 Horizontal**



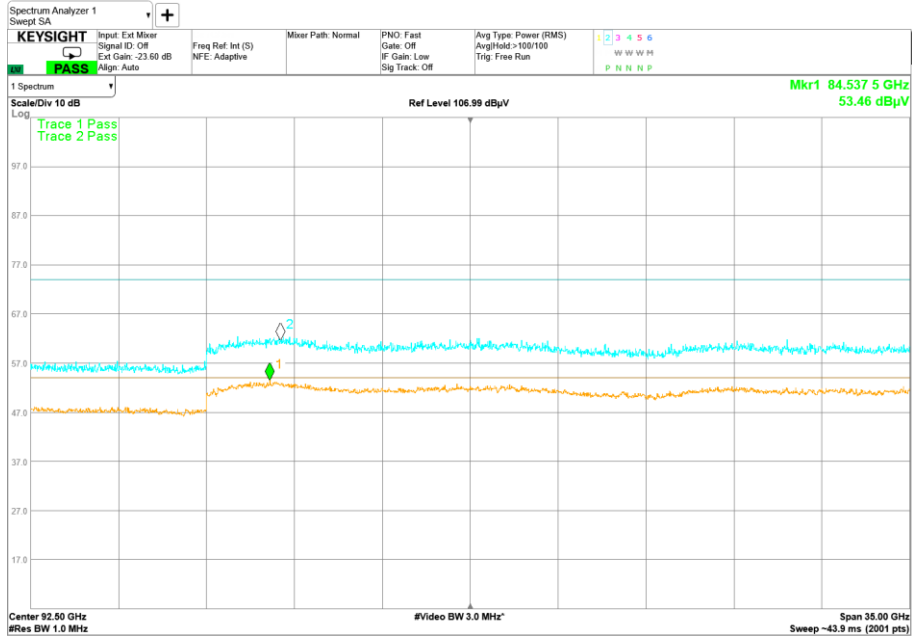
**7.8 Operation mode OP 4 Vertikal**



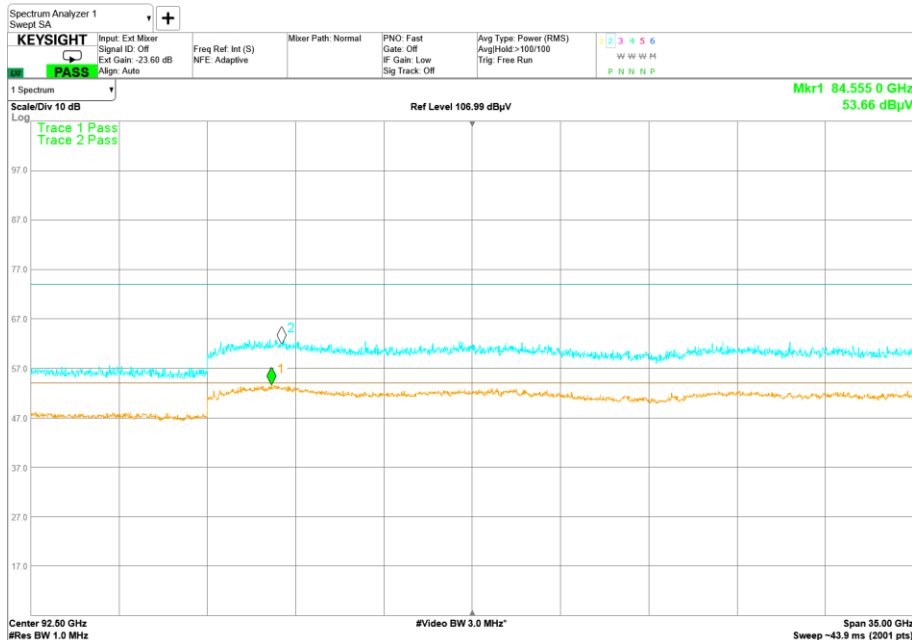
## 8 Radiated emissions 75 GHz to 110 GHz

The upper line is for the peak detector limit and the lower line is for the average detector limit (FCC Part 15.209)

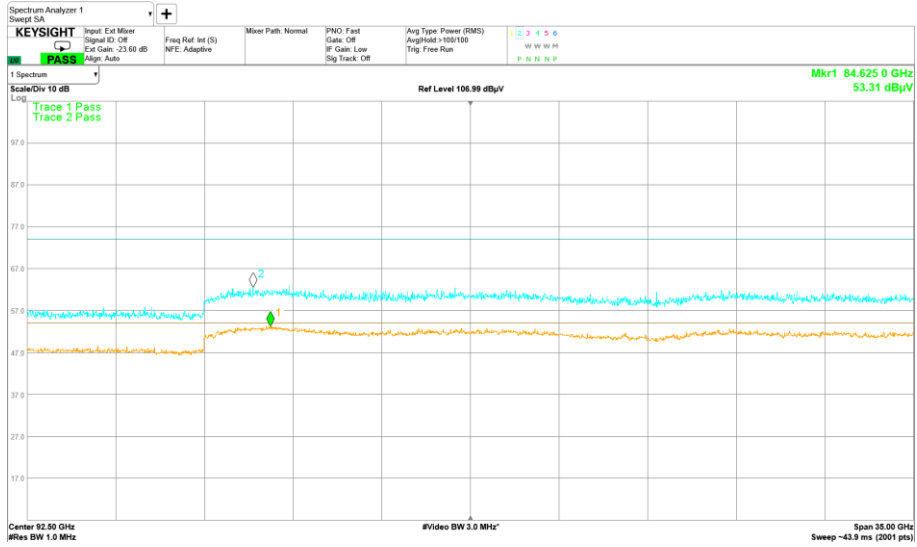
### 8.1 Operation mode OP 1 Horizontal



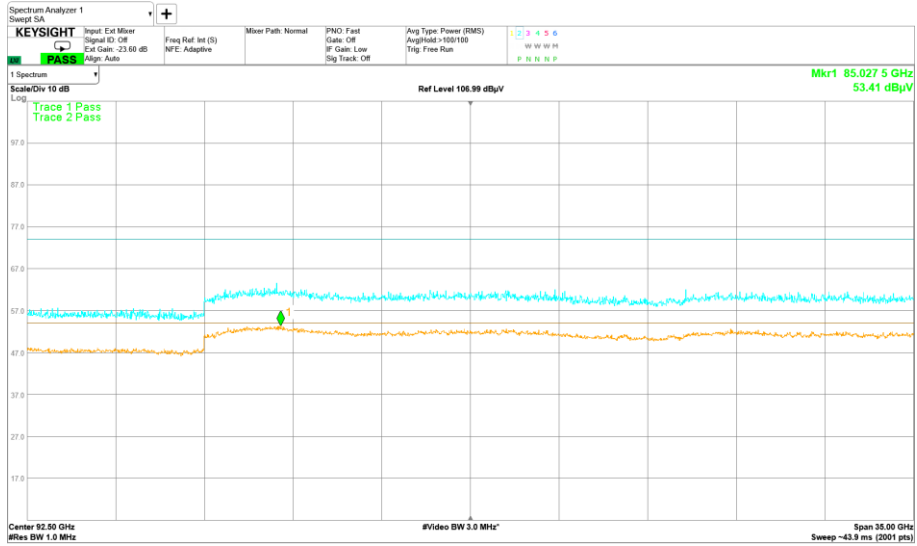
### 8.2 Operation mode OP 1 Vertikal



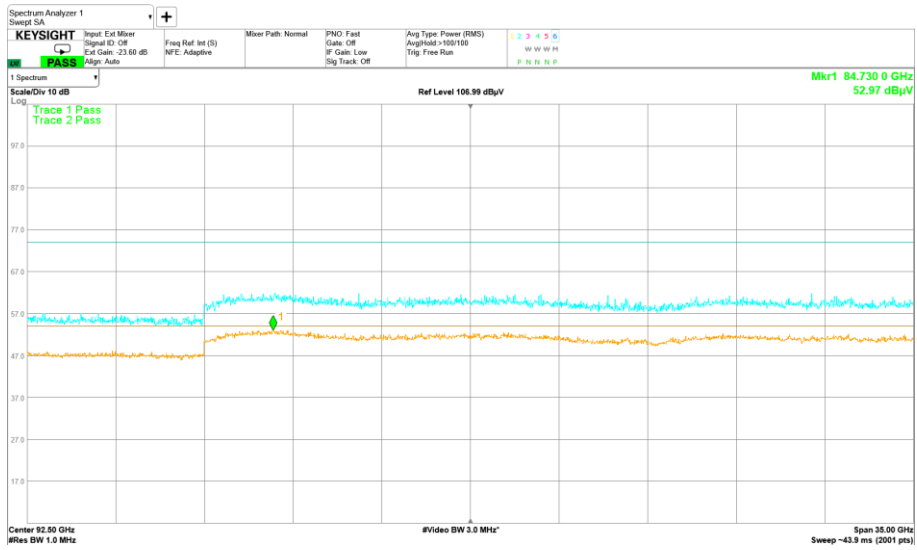
### 8.3 Operation mode OP 2 Horizontal



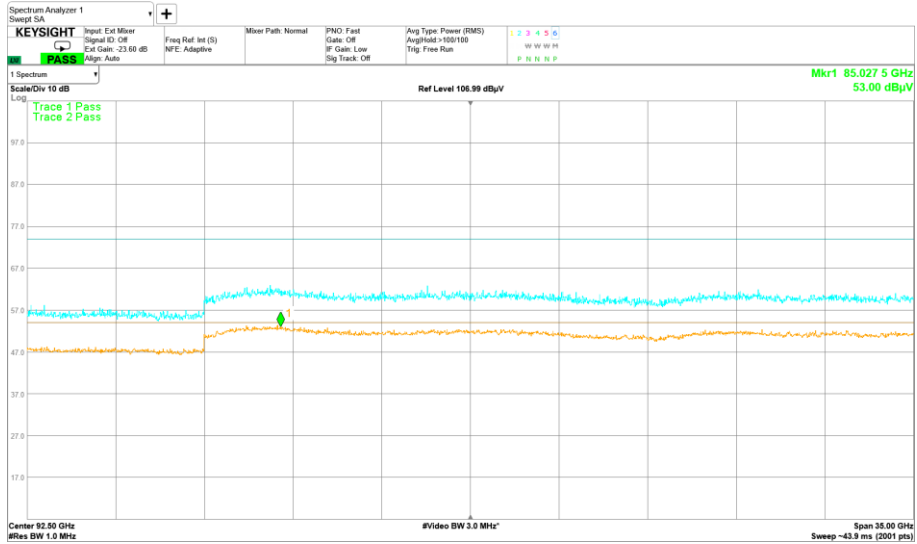
### 8.4 Operation mode OP 2 Vertikal



8.5 Operation mode OP 3 Horizontal

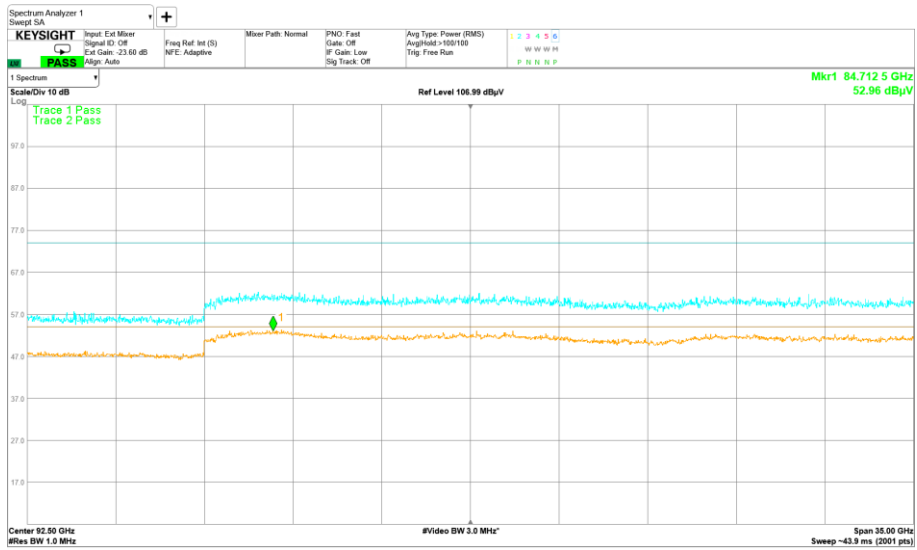


8.6 Operation mode OP 3 Vertikal





8.7 Operation mode OP 4 Horizontal



8.8 Operation mode OP 4 Vertikal

