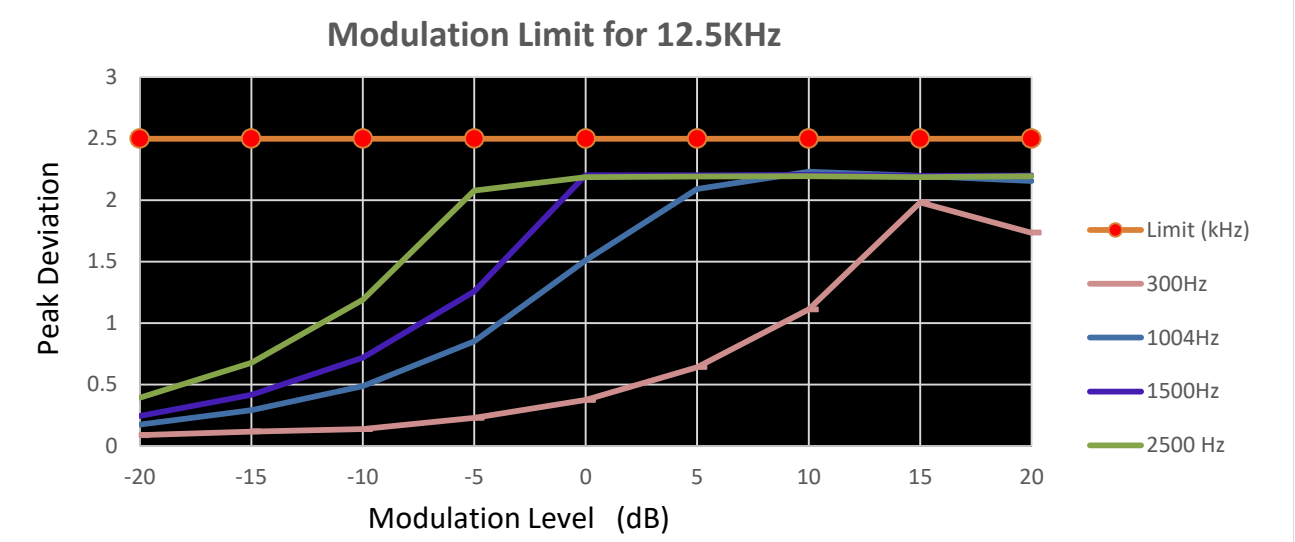
**Appendix D:Modulation Limit**

**TEST PLOT RESULT**

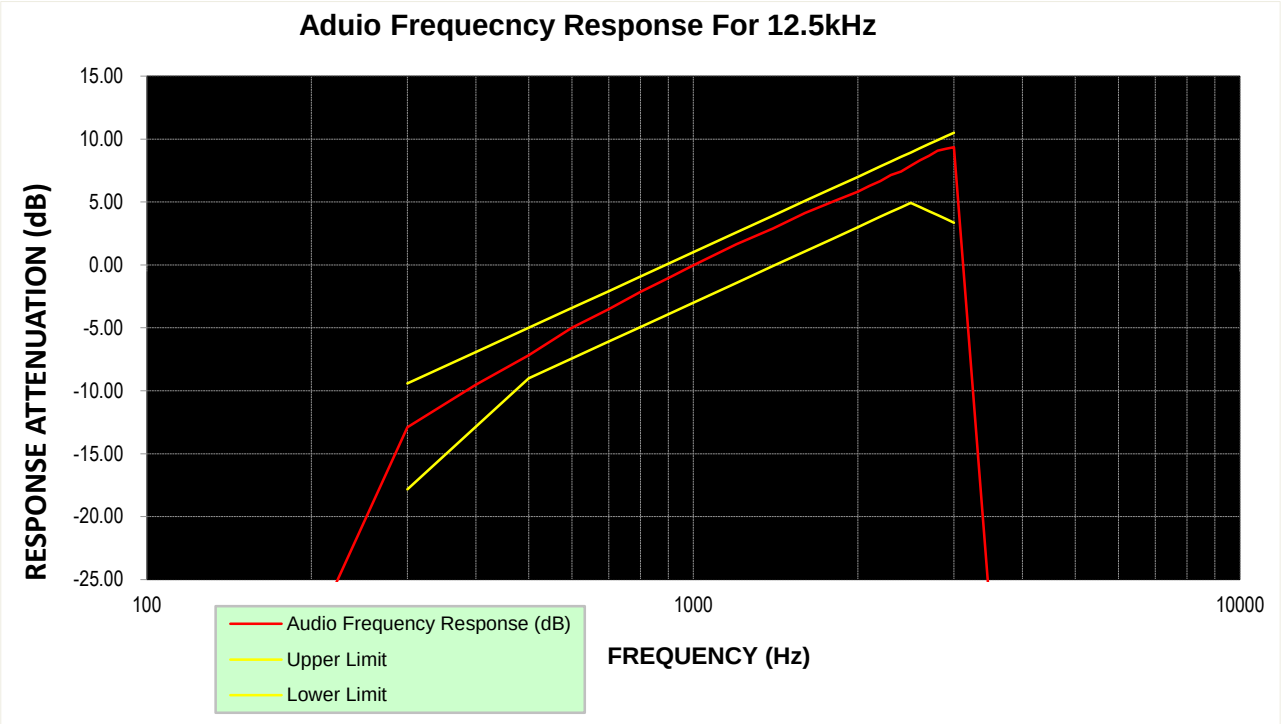


**Appendix E:Aduio Frequency Response**

| Operation Mode | Modulation Type | Test Channel | Frequency (Hz) | Audio Frequency Response (dB) | Lower Limit | Upper Limit | Result |
|---|---|---|---|---|---|---|---|
| TX-ANH | FM | $CH_{M2}$ | 100 | -29.78 | - | - | PASS |
| TX-ANH | FM | $CH_{M2}$ | 200 | -29.59 | - | - | PASS |
| TX-ANH | FM | $CH_{M2}$ | 300 | -12.91 | -17.84 | -9.42 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 400 | -9.51 | -12.86 | -6.93 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 500 | -7.18 | -9.00 | -5.00 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 600 | -4.98 | -7.42 | -3.42 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 700 | -3.53 | -6.09 | -2.09 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 800 | -2.15 | -4.93 | -0.93 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 900 | -1.06 | -3.91 | 0.09 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 1000 | -0.02 | -3.00 | 1.00 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 1200 | 1.64 | -1.42 | 2.58 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 1400 | 2.88 | -0.09 | 3.91 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 1600 | 4.10 | 1.07 | 5.07 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 1800 | 5.03 | 2.09 | 6.09 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2000 | 5.81 | 3.00 | 7.00 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2100 | 6.29 | 3.42 | 7.42 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2200 | 6.66 | 3.83 | 7.83 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2300 | 7.13 | 4.21 | 8.21 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2400 | 7.43 | 4.58 | 8.58 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2500 | 7.88 | 4.93 | 8.93 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2600 | 8.30 | 4.59 | 9.27 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2700 | 8.67 | 4.27 | 9.60 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2800 | 9.07 | 3.95 | 9.91 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 2900 | 9.23 | 3.65 | 10.22 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 3000 | 9.36 | 3.35 | 10.51 | PASS |
| TX-ANH | FM | $CH_{M2}$ | 3500 | -28.09 | - | - | PASS |
| TX-ANH | FM | $CH_{M2}$ | 4000 | -28.94 | - | - | PASS |
| TX-ANH | FM | $CH_{M2}$ | 4500 | -28.30 | - | - | PASS |
| TX-ANH | FM | $CH_{M2}$ | 5000 | -28.54 | - | - | PASS |

**Appendix E:Aduio Frequency Response**

TEST PLOT RESULT




Note: The highest audio frequency response at 3kHz<3.125kHz, so meet the requirement.

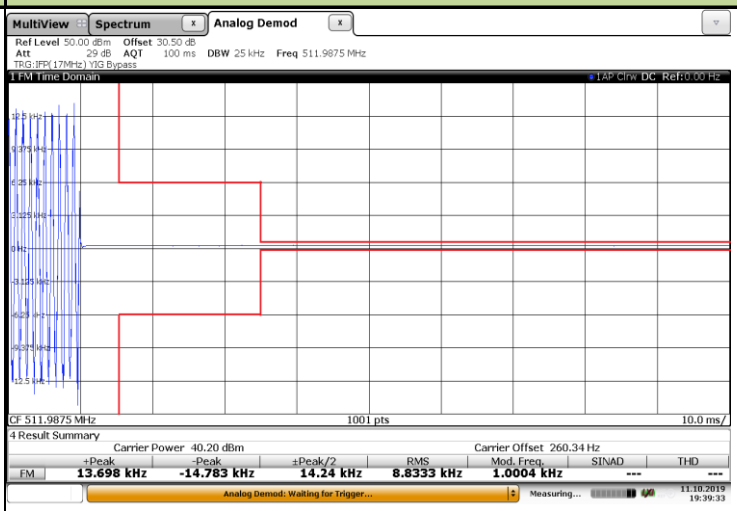
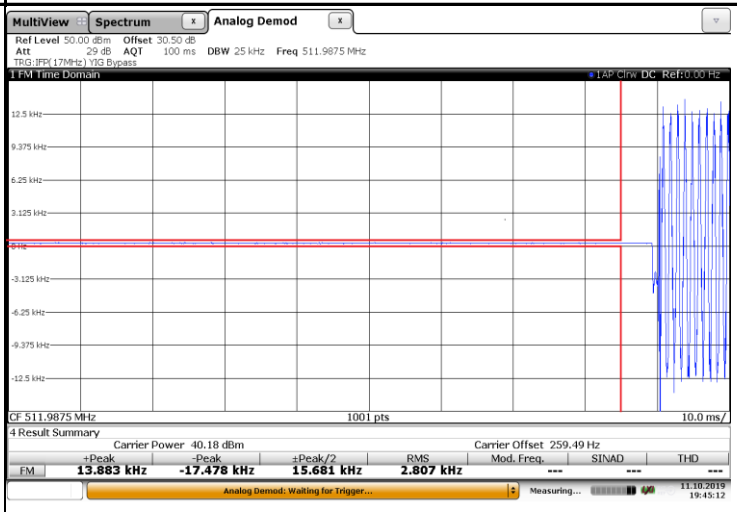
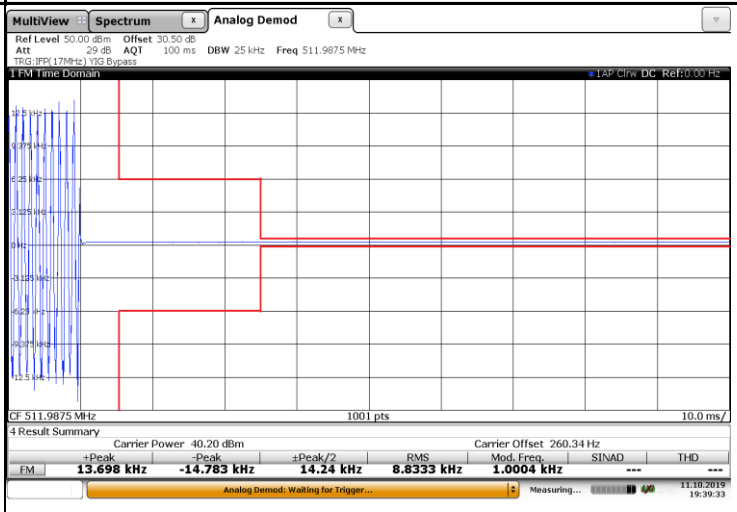
**Appendix F:Frequency Stability Test & Temperature**

| Operation Mode | Modulation Type | Test Conditions | | Frequency error (ppm) | | | | | Limit (ppm) | Result |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Voltage | Temperature | $CH_L$ | $CH_{M1}$ | $CH_{M2}$ | $CH_{M3}$ | $CH_H$ | | |
| TX-DNH | 4FSK | $V_N$ | -30 | 0.555 | 0.569 | 0.548 | 0.538 | 0.549 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | -20 | 0.546 | 0.553 | 0.534 | 0.523 | 0.539 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | -10 | 0.529 | 0.536 | 0.516 | 0.505 | 0.528 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 0 | 0.518 | 0.522 | 0.505 | 0.495 | 0.514 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 10 | 0.504 | 0.505 | 0.495 | 0.486 | 0.505 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 20 | 0.489 | 0.487 | 0.480 | 0.469 | 0.496 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 30 | 0.498 | 0.498 | 0.490 | 0.478 | 0.507 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 40 | 0.508 | 0.509 | 0.500 | 0.488 | 0.516 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_N$ | 55 | 0.519 | 0.519 | 0.512 | 0.499 | 0.525 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | -30 | 0.566 | 0.555 | **0.571** | 0.536 | 0.548 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | -20 | 0.549 | 0.542 | 0.562 | 0.520 | 0.538 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | -10 | 0.533 | 0.526 | 0.544 | 0.505 | 0.529 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 0 | 0.521 | 0.517 | 0.527 | 0.490 | 0.517 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 10 | 0.510 | 0.499 | 0.509 | 0.476 | 0.508 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 20 | 0.498 | 0.481 | 0.491 | 0.462 | 0.493 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 30 | 0.508 | 0.492 | 0.501 | 0.474 | 0.505 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 40 | 0.519 | 0.502 | 0.512 | 0.484 | 0.515 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | 55 | 0.529 | 0.514 | 0.522 | 0.495 | 0.526 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | -30 | -0.497 | -0.436 | -0.363 | -0.367 | -0.344 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | -20 | -0.480 | -0.418 | -0.348 | -0.352 | -0.333 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | -10 | -0.466 | -0.405 | -0.334 | -0.339 | -0.321 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 0 | -0.454 | -0.392 | -0.319 | -0.325 | -0.303 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 10 | -0.444 | -0.375 | -0.301 | -0.312 | **-0.285** | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 20 | -0.433 | -0.391 | -0.318 | -0.326 | **-0.296** | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 30 | -0.447 | -0.402 | -0.334 | -0.335 | -0.304 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 40 | -0.462 | -0.416 | -0.344 | -0.346 | -0.317 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | 55 | -0.473 | -0.431 | -0.357 | -0.356 | -0.333 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | -30 | -0.517 | -0.445 | -0.373 | -0.389 | -0.342 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | -20 | -0.506 | -0.427 | -0.360 | -0.378 | -0.326 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | -10 | -0.492 | -0.411 | -0.343 | -0.360 | -0.316 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 0 | -0.479 | -0.394 | -0.326 | -0.350 | -0.304 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 10 | -0.470 | -0.379 | -0.317 | -0.333 | **-0.295** | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 20 | -0.453 | -0.397 | -0.332 | -0.344 | -0.307 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 30 | -0.464 | -0.408 | -0.346 | -0.355 | -0.321 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 40 | -0.474 | -0.420 | -0.362 | -0.371 | -0.331 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | 55 | -0.490 | -0.435 | -0.377 | -0.380 | -0.347 | ±5.0 | PASS |

## Appendix G:Frequency Stability Test & Voltage

| Operation Mode | Modulation Type | Test Conditions | | Frequency error (ppm) | | | | | Limit (ppm) | Result |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Voltage | Temperature | $CH_L$ | $CH_{M1}$ | $CH_{M2}$ | $CH_{M3}$ | $CH_H$ | | |
| TX-DNH | 4FSK | $V_N$ | $T_N$ | 0.489 | 0.487 | 0.480 | 0.469 | 0.496 | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_L$ | $T_N$ | 0.513 | 0.521 | 0.508 | 0.502 | **0.529** | ±5.0 | PASS |
| TX-DNH | 4FSK | $V_H$ | $T_N$ | 0.495 | 0.499 | 0.494 | 0.481 | 0.511 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_N$ | $T_N$ | 0.498 | 0.481 | 0.491 | 0.462 | 0.493 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_L$ | $T_N$ | **0.529** | 0.515 | 0.522 | 0.496 | 0.521 | ±5.0 | PASS |
| TX-DNL | 4FSK | $V_H$ | $T_N$ | 0.517 | 0.493 | 0.506 | 0.479 | 0.514 | ±5.0 | PASS |
| TX-ANH | FM | $V_N$ | $T_N$ | -0.433 | -0.391 | -0.318 | -0.326 | -0.296 | ±5.0 | PASS |
| TX-ANH | FM | $V_L$ | $T_N$ | -0.449 | -0.422 | -0.339 | -0.361 | -0.323 | ±5.0 | PASS |
| TX-ANH | FM | $V_H$ | $T_N$ | -0.439 | -0.401 | -0.327 | -0.344 | -0.308 | ±5.0 | PASS |
| TX-ANL | FM | $V_N$ | $T_N$ | -0.453 | -0.397 | -0.332 | -0.344 | -0.307 | ±5.0 | PASS |
| TX-ANL | FM | $V_L$ | $T_N$ | -0.481 | -0.415 | -0.355 | -0.366 | -0.331 | ±5.0 | PASS |
| TX-ANL | FM | $V_H$ | $T_N$ | -0.474 | -0.409 | -0.339 | -0.351 | -0.322 | ±5.0 | PASS |

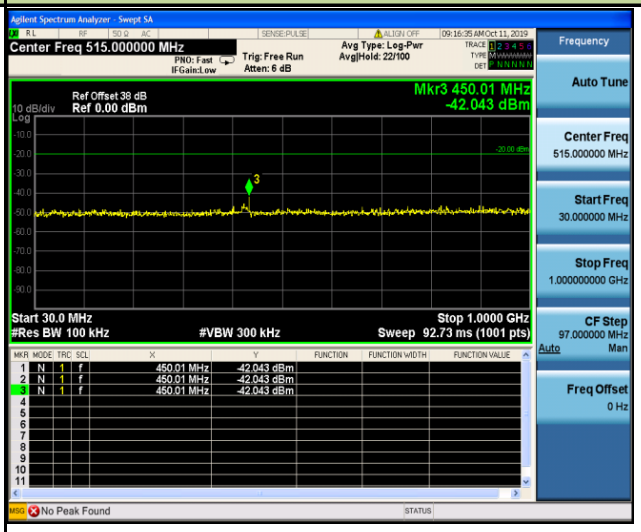
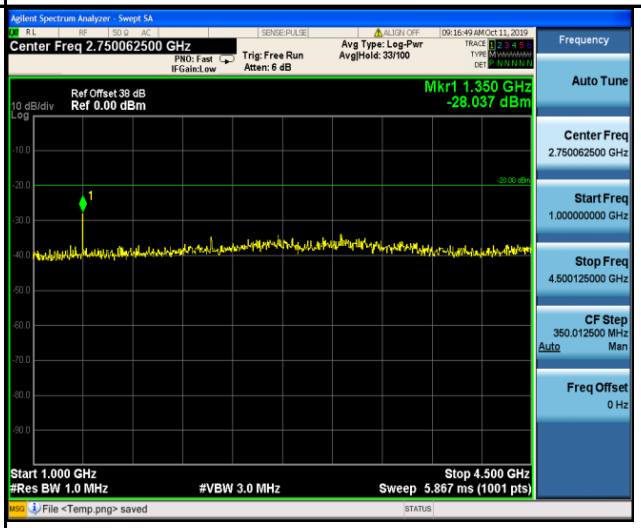
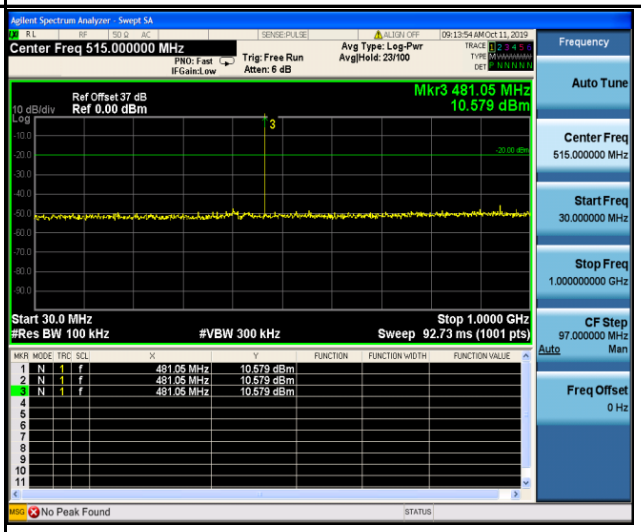
## Appendix H:Transmitter Frequency Behavior

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-DNH | 4FSK | $CH_{M2}$ |  OFF~ON |
| TX-DNH | 4FSK | $CH_{M2}$ |  ON-OFF |
| TX-ANH | FM | $CH_{M2}$ |  OFF~ON |

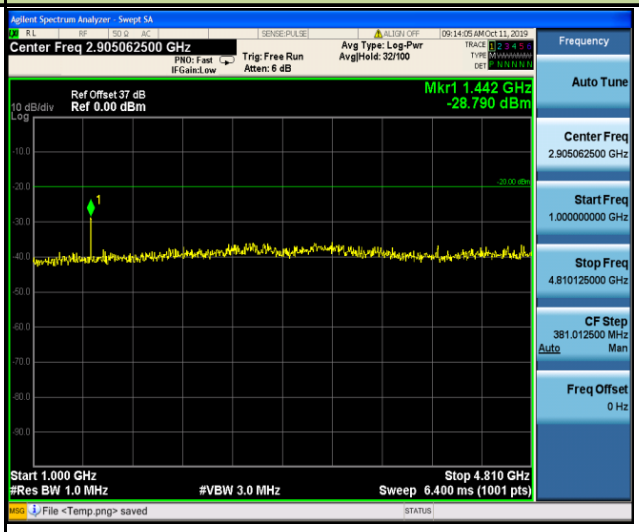
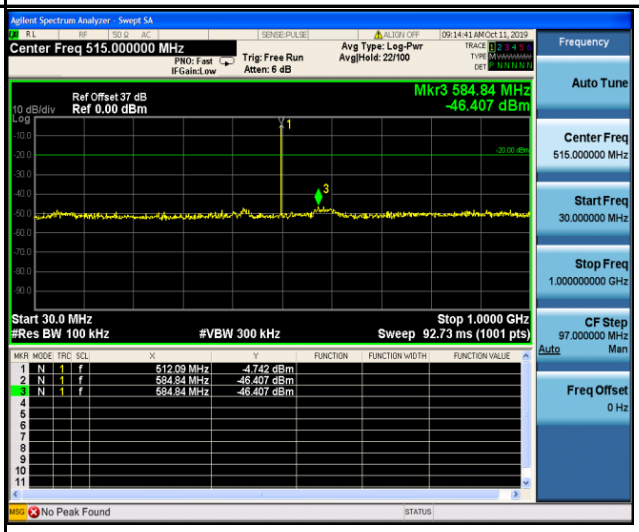
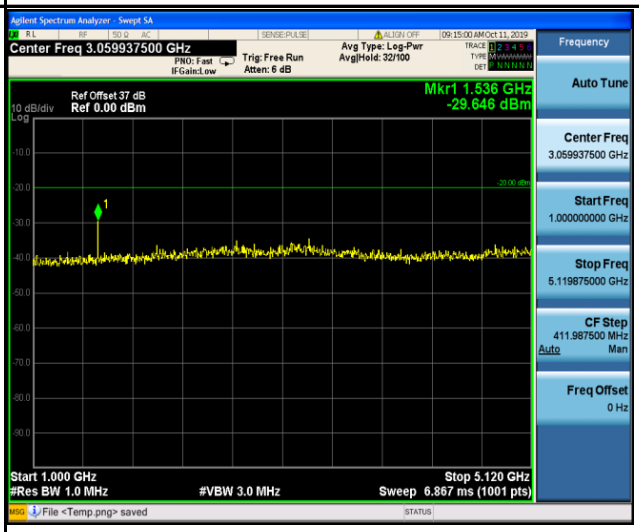
## Appendix H:Transmitter Frequency Behavior

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-ANH | FM | $CH_{M2}$ | <br>ON-OFF |

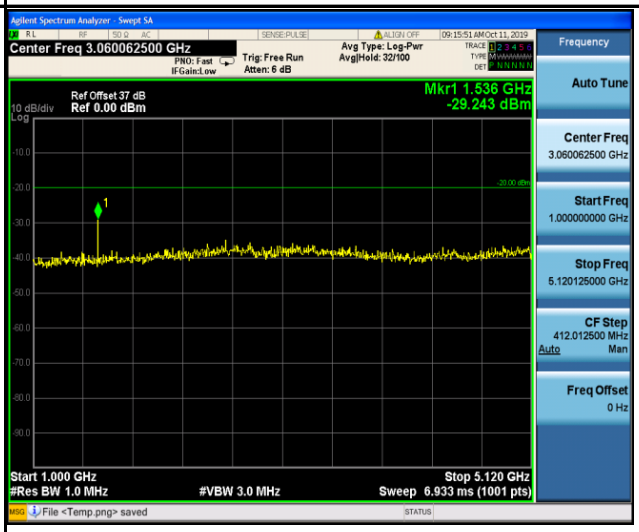
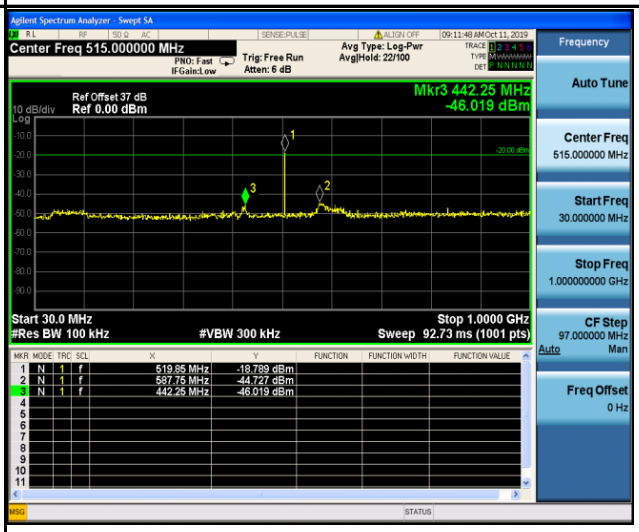
## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-DNH | 4FSK | $CH_L$ |  <br>30MHz~1GHz |
| TX-DNH | 4FSK | $CH_L$ |  <br>1GHz~10th Harmonic |
| TX-DNH | 4FSK | $CH_{M1}$ |  <br>30MHz~1GHz |

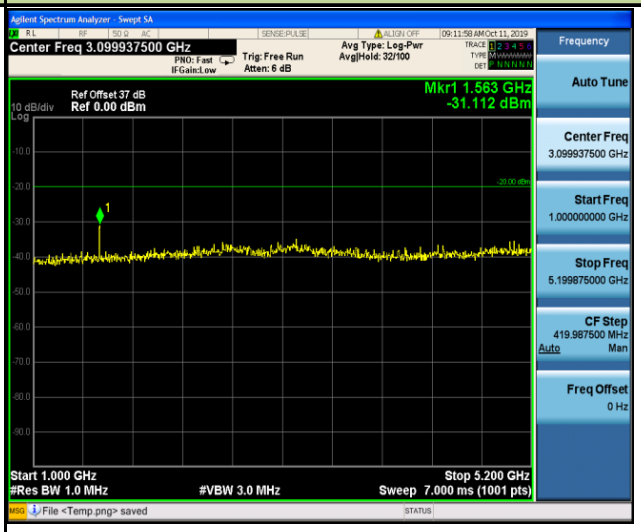
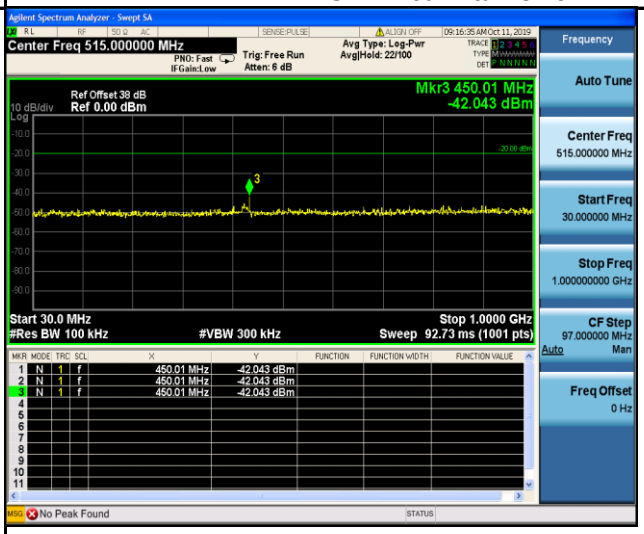
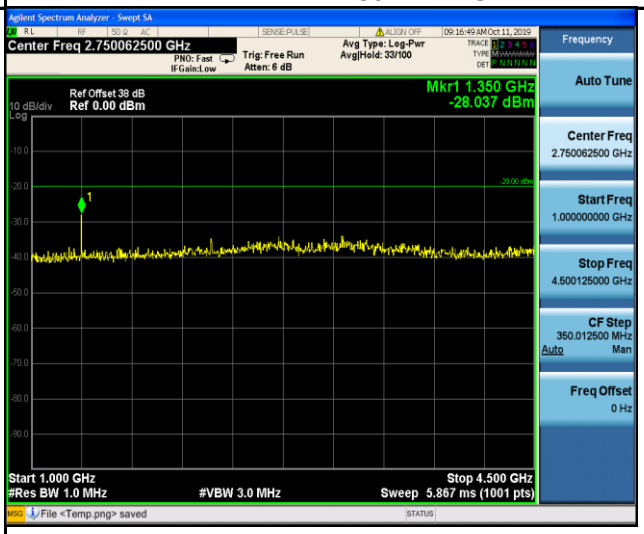
## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-DNH | 4FSK | $CH_{M1}$ |  <br>1GHz~10th Harmonic |
| TX-DNH | 4FSK | $CH_{M2}$ |  <br>30MHz~1GHz |
| TX-DNH | 4FSK | $CH_{M2}$ |  <br>1GHz~10th Harmonic |

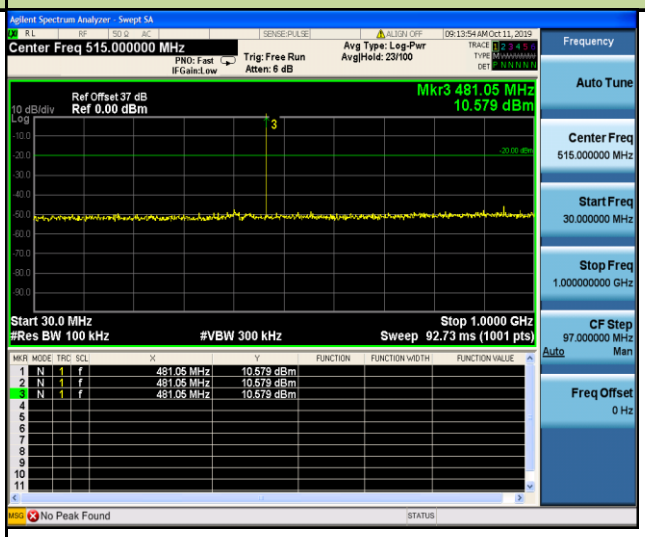
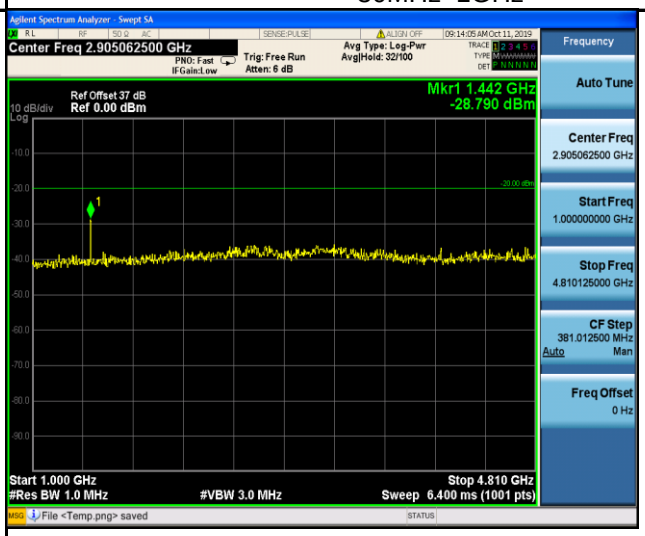
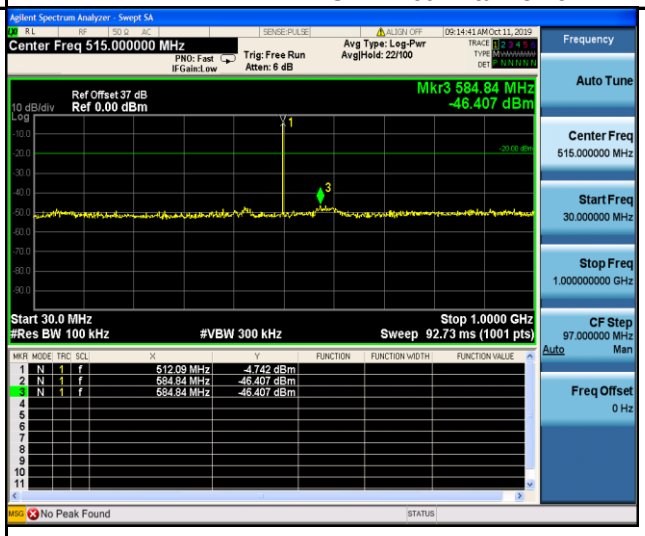
## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-DNH | 4FSK | $CH_{M3}$ | <br>30MHz~1GHz |
| TX-DNH | 4FSK | $CH_{M3}$ |  <br>1GHz~10th Harmonic |
| TX-DNH | 4FSK | $CH_{H}$ |  <br>30MHz~1GHz |

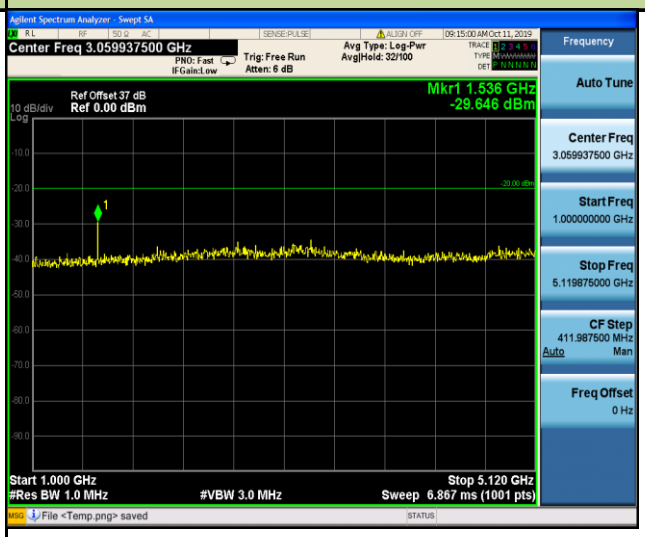
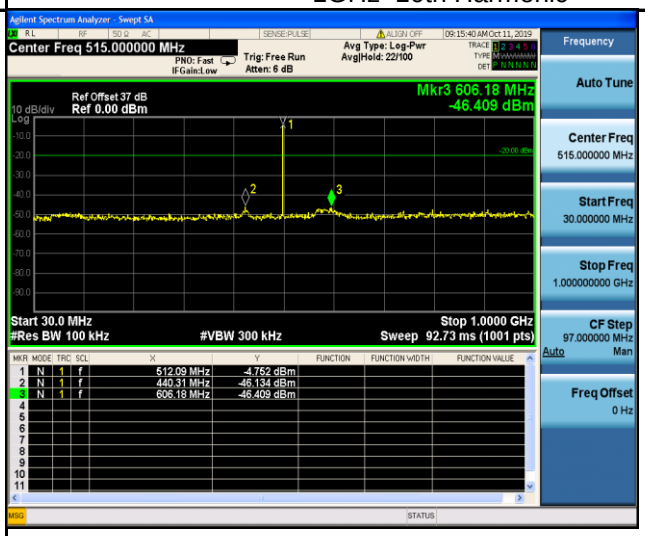
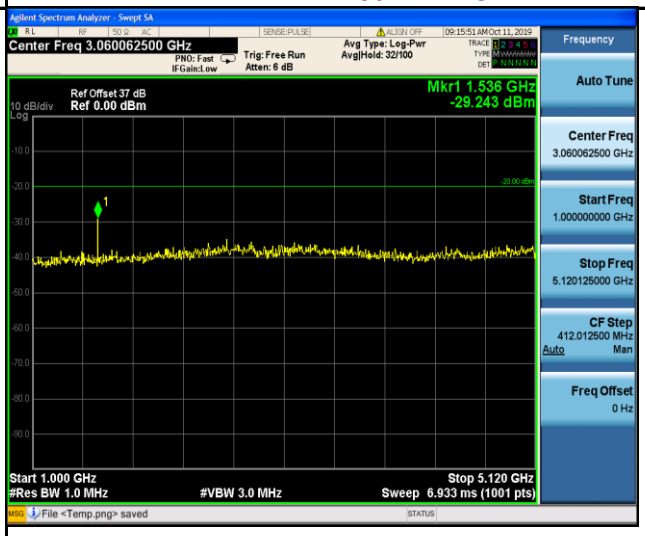
## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-DNH | 4FSK | $CH_H$ |  <br>1GHz~10th Harmonic |
| TX-ANH | FM | $CH_L$ |  <br>30MHz~1GHz |
| TX-ANH | FM | $CH_L$ |  <br>1GHz~10th Harmonic |

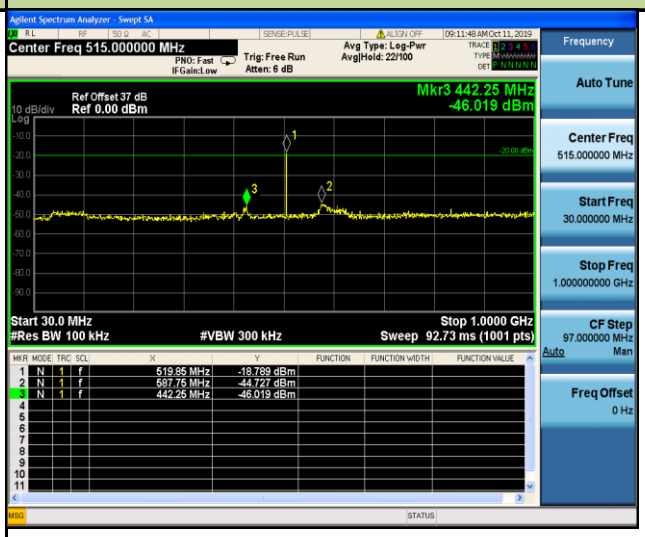
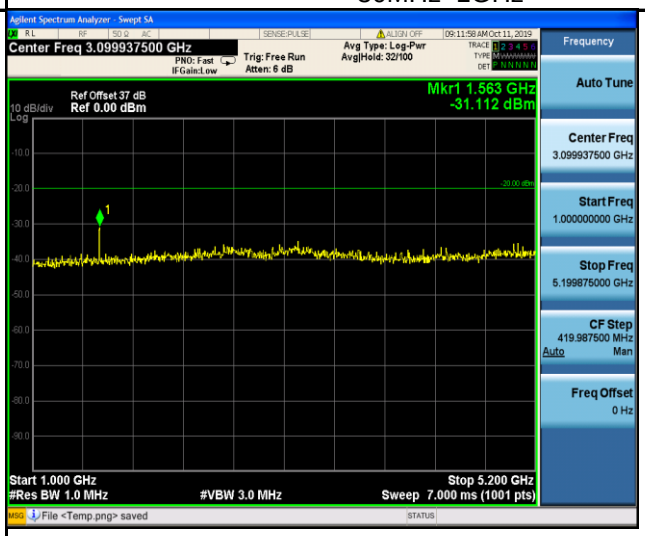
## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-ANH | FM | $CH_{M1}$ |  <br>30MHz~1GHz |
| TX-ANH | FM | $CH_{M1}$ |  <br>1GHz~10th Harmonic |
| TX-ANH | FM | $CH_{M2}$ |  <br>30MHz~1GHz |

## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-ANH | FM | $CH_{M2}$ |  <br>1GHz~10th Harmonic |
| TX-ANH | FM | $CH_{M3}$ |  <br>30MHz~1GHz |
| TX-ANH | FM | $CH_{M3}$ |  <br>1GHz~10th Harmonic |

## Appendix I:Spurious Emission On Antenna Port

| Operation Mode | Modulation Type | Test Channel | TEST PLOT RESULT |
|---|---|---|---|
| TX-ANH | FM | $CH_H$ |  <br>30MHz~1GHz |
| TX-ANH | FM | $CH_H$ |  <br>1GHz~10th Harmonic |

----End of Report----