Band

LTE4

10MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_QPSK Band 4 Fundamentals, 10MHz Bandwidth

**Test Equipment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1715.00 | 8.55 | V | 0.9 | 8.2 | 15.82 | 30.0 | -14.2 | |
| 1715.00 | 15.70 | H | 0.9 | 8.2 | 22.97 | 30.0 | -7.0 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 8.55 | V | 0.9 | 8.2 | 15.82 | 30.0 | -14.2 | |
| 1732.50 | 15.89 | H | 0.9 | 8.2 | 23.16 | 30.0 | -6.8 | |
| High Ch | | | | | | | | |
| 1750.00 | 8.59 | V | 0.9 | 8.1 | 15.78 | 30.0 | -14.2 | |
| 1750.00 | 16.10 | H | 0.9 | 8.1 | 23.29 | 30.0 | -6.7 | |



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Band

LTE4

5MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_16QAM Band 4 Fundamentals, 5MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1712.50 | 7.47 | V | 0.9 | 8.2 | 14.81 | 30.0 | -15.2 | |
| 1712.50 | 14.73 | H | 0.9 | 8.2 | 22.07 | 30.0 | -7.9 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 7.31 | V | 0.9 | 8.2 | 14.58 | 30.0 | -15.4 | |
| 1732.50 | 15.05 | H | 0.9 | 8.2 | 22.32 | 30.0 | -7.7 | |
| High Ch | | | | | | | | |
| 1752.50 | 7.62 | V | 0.9 | 8.1 | 14.82 | 30.0 | -15.2 | |
| 1752.50 | 15.20 | H | 0.9 | 8.1 | 22.40 | 30.0 | -7.6 | |


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Band

LTE4

5MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1712.50 | 8.50 | V | 0.9 | 8.2 | 15.84 | 30.0 | -14.2 | |
| 1712.50 | 15.56 | H | 0.9 | 8.2 | 22.90 | 30.0 | -7.1 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 8.44 | V | 0.9 | 8.2 | 15.71 | 30.0 | -14.3 | |
| 1732.50 | 15.88 | H | 0.9 | 8.2 | 23.15 | 30.0 | -6.8 | |
| High Ch | | | | | | | | |
| 1752.50 | 8.72 | V | 0.9 | 8.1 | 15.92 | 30.0 | -14.1 | |
| 1752.50 | 16.17 | H | 0.9 | 8.1 | 23.37 | 30.0 | -6.6 | |



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Band

LTE4

3MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1711.50 | 7.45 | V | 0.9 | 8.2 | 14.80 | 30.0 | -15.2 | |
| 1711.50 | 14.75 | H | 0.9 | 8.2 | 22.10 | 30.0 | -7.9 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 7.41 | V | 0.9 | 8.2 | 14.68 | 30.0 | -15.3 | |
| 1732.50 | 15.11 | H | 0.9 | 8.2 | 22.38 | 30.0 | -7.6 | |
| High Ch | | | | | | | | |
| 1753.50 | 7.66 | V | 0.9 | 8.1 | 14.85 | 30.0 | -15.1 | |
| 1753.50 | 15.41 | H | 0.9 | 8.1 | 22.60 | 30.0 | -7.4 | |



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Band

LTE4

3MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_QPSK Band 4 Fundamentals, 3MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1711.50 | 8.48 | V | 0.9 | 8.2 | 15.83 | 30.0 | -14.2 | |
| 1711.50 | 15.58 | H | 0.9 | 8.2 | 22.93 | 30.0 | -7.1 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 8.41 | V | 0.9 | 8.2 | 15.68 | 30.0 | -14.3 | |
| 1732.50 | 15.99 | H | 0.9 | 8.2 | 23.26 | 30.0 | -6.7 | |
| High Ch | | | | | | | | |
| 1753.50 | 8.73 | V | 0.9 | 8.1 | 15.92 | 30.0 | -14.1 | |
| 1753.50 | 16.17 | H | 0.9 | 8.1 | 23.36 | 30.0 | -6.6 | |



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Band

LTE4

1.4MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_16QAM Band 4 Fundamentals, 1.4MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1710.70 | 7.40 | V | 0.9 | 8.2 | 14.67 | 30.0 | -15.3 | |
| 1710.70 | 14.72 | H | 0.9 | 8.2 | 21.99 | 30.0 | -8.0 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 7.34 | V | 0.9 | 8.2 | 14.61 | 30.0 | -15.4 | |
| 1732.50 | 15.10 | H | 0.9 | 8.2 | 22.37 | 30.0 | -7.6 | |
| High Ch | | | | | | | | |
| 1754.30 | 7.61 | V | 0.9 | 8.1 | 14.80 | 30.0 | -15.2 | |
| 1754.30 | 15.26 | H | 0.9 | 8.1 | 22.45 | 30.0 | -7.5 | |



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Band

LTE4

1.4MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/4/2015
**Test Engineer:** R.Alegre
**Configuration:** EUT Only
**Location:** Chamber A
**Mode:** LTE_QPSK Band 4 Fundamentals, 1.4MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T711, and Chamber A SMA Cables**
**Substitution: Horn T59, 4ft SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1710.70 | 8.45 | V | 0.9 | 8.2 | 15.72 | 30.0 | -14.3 | |
| 1710.70 | 15.67 | H | 0.9 | 8.2 | 22.94 | 30.0 | -7.1 | |
| Mid Ch | | | | | | | | |
| 1732.50 | 8.66 | V | 0.9 | 8.2 | 15.93 | 30.0 | -14.1 | |
| 1732.50 | 15.90 | H | 0.9 | 8.2 | 23.17 | 30.0 | -6.8 | |
| High Ch | | | | | | | | |
| 1754.30 | 8.55 | V | 0.9 | 8.1 | 15.74 | 30.0 | -14.3 | |
| 1754.30 | 16.20 | H | 0.9 | 8.1 | 23.39 | 30.0 | -6.6 | |


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## LTE Band 2

Band

LTE2

20MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1860.00 | 13.81 | V | 0.9 | 8.5 | 21.47 | 33.0 | -11.5 | |
| 1860.00 | 16.55 | H | 0.9 | 8.5 | 24.21 | 33.0 | -8.8 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 10.73 | V | 0.9 | 8.5 | 18.38 | 33.0 | -14.6 | |
| 1880.00 | 16.87 | H | 0.9 | 8.5 | 24.52 | 33.0 | -8.5 | |
| High Ch | | | | | | | | |
| 1900.00 | 10.56 | V | 0.9 | 8.5 | 18.25 | 33.0 | -14.7 | |
| 1900.00 | 17.11 | H | 0.9 | 8.5 | 24.80 | 33.0 | -8.2 | |


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Band

LTE2

20MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1860.00 | 14.42 | V | 0.9 | 8.5 | 22.08 | 33.0 | -10.9 | |
| 1860.00 | 17.36 | H | 0.9 | 8.5 | 25.02 | 33.0 | -8.0 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 11.64 | V | 0.9 | 8.5 | 19.29 | 33.0 | -13.7 | |
| 1880.00 | 17.45 | H | 0.9 | 8.5 | 25.10 | 33.0 | -7.9 | |
| High Ch | | | | | | | | |
| 1900.00 | 11.39 | V | 0.9 | 8.5 | 19.08 | 33.0 | -13.9 | |
| 1900.00 | 17.87 | H | 0.9 | 8.5 | 25.56 | 33.0 | -7.4 | |


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Band

LTE2

15MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 15MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1857.50 | 13.09 | V | 0.9 | 8.5 | 20.75 | 33.0 | -12.3 | |
| 1857.50 | 16.08 | H | 0.9 | 8.5 | 23.74 | 33.0 | -9.3 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 12.67 | V | 0.9 | 8.5 | 20.32 | 33.0 | -12.7 | |
| 1880.00 | 16.36 | H | 0.9 | 8.5 | 24.01 | 33.0 | -9.0 | |
| High Ch | | | | | | | | |
| 1902.50 | 10.46 | V | 0.9 | 8.5 | 18.15 | 33.0 | -14.8 | |
| 1902.50 | 16.20 | H | 0.9 | 8.5 | 23.89 | 33.0 | -9.1 | |



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Band

LTE2

15MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 15MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1857.50 | 13.97 | V | 0.9 | 8.5 | 21.63 | 33.0 | -11.4 | |
| 1857.50 | 17.06 | H | 0.9 | 8.5 | 24.72 | 33.0 | -8.3 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 13.44 | V | 0.9 | 8.5 | 21.09 | 33.0 | -11.9 | |
| 1880.00 | 16.98 | H | 0.9 | 8.5 | 24.63 | 33.0 | -8.4 | |
| High Ch | | | | | | | | |
| 1902.50 | 11.23 | V | 0.9 | 8.5 | 18.92 | 33.0 | -14.1 | |
| 1902.50 | 17.06 | H | 0.9 | 8.5 | 24.75 | 33.0 | -8.2 | |



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Band

LTE2

10MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 10MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1855.00 | 14.32 | V | 0.9 | 8.5 | 21.98 | 33.0 | -11.0 | |
| 1855.00 | 16.70 | H | 0.9 | 8.5 | 24.36 | 33.0 | -8.6 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 10.32 | V | 0.9 | 8.5 | 17.97 | 33.0 | -15.0 | |
| 1880.00 | 16.84 | H | 0.9 | 8.5 | 24.49 | 33.0 | -8.5 | |
| High Ch | | | | | | | | |
| 1905.00 | 11.21 | V | 0.9 | 8.5 | 18.90 | 33.0 | -14.1 | |
| 1905.00 | 15.45 | H | 0.9 | 8.5 | 23.14 | 33.0 | -9.9 | |



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Band

LTE2

10MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 10MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1855.00 | 15.07 | V | 0.9 | 8.5 | 22.73 | 33.0 | -10.3 | |
| 1855.00 | 17.51 | H | 0.9 | 8.5 | 25.17 | 33.0 | -7.8 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 11.08 | V | 0.9 | 8.5 | 18.73 | 33.0 | -14.3 | |
| 1880.00 | 17.58 | H | 0.9 | 8.5 | 25.23 | 33.0 | -7.8 | |
| High Ch | | | | | | | | |
| 1905.00 | 11.98 | V | 0.9 | 8.5 | 19.67 | 33.0 | -13.3 | |
| 1905.00 | 16.33 | H | 0.9 | 8.5 | 24.02 | 33.0 | -9.0 | |



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Band

LTE2

5MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 5MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1852.50 | 14.21 | V | 0.9 | 8.5 | 21.87 | 33.0 | -11.1 | |
| 1852.50 | 17.04 | H | 0.9 | 8.5 | 24.70 | 33.0 | -8.3 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 12.80 | V | 0.9 | 8.5 | 20.45 | 33.0 | -12.6 | |
| 1880.00 | 15.98 | H | 0.9 | 8.5 | 23.63 | 33.0 | -9.4 | |
| High Ch | | | | | | | | |
| 1907.50 | 10.97 | V | 0.9 | 8.5 | 18.66 | 33.0 | -14.3 | |
| 1907.50 | 15.80 | H | 0.9 | 8.5 | 23.49 | 33.0 | -9.5 | |



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Band

LTE2

5MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 5MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1852.50 | 14.95 | V | 0.9 | 8.5 | 22.61 | 33.0 | -10.4 | |
| 1852.50 | 17.51 | H | 0.9 | 8.5 | 25.17 | 33.0 | -7.8 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 13.54 | V | 0.9 | 8.5 | 21.19 | 33.0 | -11.8 | |
| 1880.00 | 16.64 | H | 0.9 | 8.5 | 24.29 | 33.0 | -8.7 | |
| High Ch | | | | | | | | |
| 1907.50 | 11.78 | V | 0.9 | 8.5 | 19.47 | 33.0 | -13.5 | |
| 1907.50 | 16.59 | H | 0.9 | 8.5 | 24.28 | 33.0 | -8.7 | |



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Band

LTE2

3MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1851.50 | 11.17 | V | 0.9 | 8.5 | 18.83 | 33.0 | -14.2 | |
| 1851.50 | 17.17 | H | 0.9 | 8.5 | 24.83 | 33.0 | -8.2 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 11.78 | V | 0.9 | 8.5 | 19.43 | 33.0 | -13.6 | |
| 1880.00 | 16.96 | H | 0.9 | 8.5 | 24.61 | 33.0 | -8.4 | |
| High Ch | | | | | | | | |
| 1908.50 | 10.75 | V | 0.9 | 8.5 | 18.44 | 33.0 | -14.6 | |
| 1908.50 | 16.37 | H | 0.9 | 8.5 | 24.06 | 33.0 | -8.9 | |



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Band

LTE2

3MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1851.50 | 11.84 | V | 0.9 | 8.5 | 19.50 | 33.0 | -13.5 | |
| 1851.50 | 18.00 | H | 0.9 | 8.5 | 25.66 | 33.0 | -7.3 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 12.59 | V | 0.9 | 8.5 | 20.24 | 33.0 | -12.8 | |
| 1880.00 | 17.82 | H | 0.9 | 8.5 | 25.47 | 33.0 | -7.5 | |
| High Ch | | | | | | | | |
| 1908.50 | 11.57 | V | 0.9 | 8.5 | 19.26 | 33.0 | -13.7 | |
| 1908.50 | 17.20 | H | 0.9 | 8.5 | 24.89 | 33.0 | -8.1 | |



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Band

LTE2

1.4MHz

16QAM

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_16QAM Band 2 Fundamentals, 1.4MHz Bandwidth

**Test Equpment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1850.70 | 14.31 | V | 0.9 | 8.5 | 21.97 | 33.0 | -11.0 | |
| 1850.70 | 16.69 | H | 0.9 | 8.5 | 24.35 | 33.0 | -8.7 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 13.38 | V | 0.9 | 8.5 | 21.03 | 33.0 | -12.0 | |
| 1880.00 | 16.74 | H | 0.9 | 8.5 | 24.39 | 33.0 | -8.6 | |
| High Ch | | | | | | | | |
| 1909.30 | 12.76 | V | 0.9 | 8.5 | 20.45 | 33.0 | -12.5 | |
| 1909.30 | 15.92 | H | 0.9 | 8.5 | 23.61 | 33.0 | -9.4 | |



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Band

LTE2

1.4MHz

QPSK

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Location:** Chamber C
**Mode:** LTE_QPSK Band 2 Fundamentals, 1.4MHz Bandwidth

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1850.70 | 14.67 | V | 0.9 | 8.5 | 22.33 | 33.0 | -10.7 | |
| 1850.70 | 17.41 | H | 0.9 | 8.5 | 25.07 | 33.0 | -7.9 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 13.90 | V | 0.9 | 8.5 | 21.55 | 33.0 | -11.5 | |
| 1880.00 | 17.20 | H | 0.9 | 8.5 | 24.85 | 33.0 | -8.2 | |
| High Ch | | | | | | | | |
| 1909.30 | 13.28 | V | 0.9 | 8.5 | 20.97 | 33.0 | -12.0 | |
| 1909.30 | 16.58 | H | 0.9 | 8.5 | 24.27 | 33.0 | -8.7 | |



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**WCDMA**

Band

Band 2

HSDPA

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/3/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT only
**Mode:** HSDPA B2

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1852.40 | 4.65 | V | 0.9 | 8.5 | 12.31 | 33.0 | -20.7 | |
| 1852.40 | 14.55 | H | 0.9 | 8.5 | 22.21 | 33.0 | -10.8 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 5.68 | V | 0.9 | 8.5 | 13.33 | 33.0 | -19.7 | |
| 1880.00 | 15.91 | H | 0.9 | 8.5 | 23.56 | 33.0 | -9.4 | |
| High Ch | | | | | | | | |
| 1907.60 | 6.61 | V | 0.9 | 8.5 | 14.30 | 33.0 | -18.7 | |
| 1907.60 | 16.12 | H | 0.9 | 8.5 | 23.81 | 33.0 | -9.2 | |

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm


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Band

Band 2

REL99

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15U20030
**Date:** 4/4/2015
**Test Engineer:** S.Tran
**Configuration:** X-pos EUT only
**Mode:** REL99 B2

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1852.40 | 4.67 | V | 0.9 | 8.5 | 12.33 | 33.0 | -20.7 | |
| 1852.40 | 15.90 | H | 0.9 | 8.5 | 23.56 | 33.0 | -9.4 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 5.70 | V | 0.9 | 8.5 | 13.35 | 33.0 | -19.7 | |
| 1880.00 | 17.58 | H | 0.9 | 8.5 | 25.23 | 33.0 | -7.8 | |
| High Ch | | | | | | | | |
| 1907.60 | 6.60 | V | 0.9 | 8.5 | 14.29 | 33.0 | -18.7 | |
| 1907.60 | 16.73 | H | 0.9 | 8.5 | 24.42 | 33.0 | -8.6 | |

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm



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Band

Band 5

HSDPA

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15I20030
**Date:** 03/05/15
**Test Engineer:** Charles Vergonio
**Configuration:** EUT Y-position
**Mode:** HSDPA B5 FUND

**Test Equipment:**
**Receiving: Sunol T185, and 3m Chamber C N-type Cable**
**Substitution: Dipole T273, 4ft SMA Cable Warehouse.**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 826.40 | 22.27 | V | 0.9 | 0.0 | 21.37 | 38.5 | -17.1 | |
| 826.40 | 13.76 | H | 0.9 | 0.0 | 12.86 | 38.5 | -25.6 | |
| Mid Ch | | | | | | | | |
| 836.60 | 22.44 | V | 0.9 | 0.0 | 21.54 | 38.5 | -16.9 | |
| 836.60 | 13.31 | H | 0.9 | 0.0 | 12.41 | 38.5 | -26.0 | |
| High Ch | | | | | | | | |
| 846.60 | 22.70 | V | 0.9 | 0.0 | 21.80 | 38.5 | -16.6 | |
| 846.60 | 14.00 | H | 0.9 | 0.0 | 13.10 | 38.5 | -25.3 | |

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm



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Band

Band 5

REL99

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15I20030
**Date:** 03/05/15
**Test Engineer:** Charles Vergonio
**Configuration:** EUT Y-position
**Mode:** REL99 B5 FUND

**Test Equipment:**
**Receiving: Sunol T185, and 3m Chamber C N-type Cable**
**Substitution: Dipole T273, 4ft SMA Cable Warehouse.**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 826.40 | 22.39 | V | 0.9 | 0.0 | 21.49 | 38.5 | -17.0 | |
| 826.40 | 13.97 | H | 0.9 | 0.0 | 13.07 | 38.5 | -25.4 | |
| Mid Ch | | | | | | | | |
| 836.60 | 22.60 | V | 0.9 | 0.0 | 21.70 | 38.5 | -16.7 | |
| 836.60 | 13.54 | H | 0.9 | 0.0 | 12.64 | 38.5 | -25.8 | |
| High Ch | | | | | | | | |
| 846.60 | 22.95 | V | 0.9 | 0.0 | 22.05 | 38.5 | -16.4 | |
| 846.60 | 14.34 | H | 0.9 | 0.0 | 13.44 | 38.5 | -25.0 | |

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm




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**GSM**

Band

GSM 1900

EGPRS

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15U20030
**Date:** 4/4/2015
**Test Engineer:** S.Tran
**Configuration:** X-pos EUT only
**Mode:** EGPRS 1900

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1850.20 | 13.61 | V | 0.9 | 8.5 | 21.27 | 33.0 | -11.7 | |
| 1850.20 | 19.27 | H | 0.9 | 8.5 | 26.93 | 33.0 | -6.1 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 18.10 | V | 0.9 | 8.5 | 25.75 | 33.0 | -7.3 | |
| 1880.00 | 20.86 | H | 0.9 | 8.5 | 28.51 | 33.0 | -4.5 | |
| High Ch | | | | | | | | |
| 1909.80 | 14.90 | V | 0.9 | 8.5 | 22.59 | 33.0 | -10.4 | |
| 1909.80 | 20.76 | H | 0.9 | 8.5 | 28.45 | 33.0 | -4.5 | |

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm




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Band

GSM 1900

GPRS

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** Charles Vergonio
**Configuration:** X-pos EUT only
**Mode:** GPRS 1900

**Test Equipment:**
**Receiving: Horn T119, and Chamber C SMA Cables**
**Substitution: Horn T72 Substitution, T1096 SMA Cable Warehouse**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 1850.20 | 19.45 | V | 0.9 | 8.5 | 27.11 | 33.0 | -5.9 | |
| 1850.20 | 22.50 | H | 0.9 | 8.5 | 30.16 | 33.0 | -2.8 | |
| Mid Ch | | | | | | | | |
| 1880.00 | 20.20 | V | 0.9 | 8.5 | 27.85 | 33.0 | -5.2 | |
| 1880.00 | 24.98 | H | 0.9 | 8.5 | 32.63 | 33.0 | -0.4 | |
| High Ch | | | | | | | | |
| 1909.80 | 19.98 | V | 0.9 | 8.5 | 27.67 | 33.0 | -5.3 | |
| 1909.80 | 25.12 | H | 0.9 | 8.5 | 32.81 | 33.0 | -0.2 | |

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm



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Band

GSM 850

EGPRS

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15I20030
**Date:** 04/04/15
**Test Engineer:** S.Tran
**Configuration:** EUT Y-position
**Mode:** EGPRS850

**Test Equipment:**
**Receiving: Hybrid T185, and Chamber C N-type Cable**
**Substitution: Dipole T273, 8ft SMA Cable Warehouse.**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 824.20 | 24.40 | V | 0.9 | 0.0 | 23.50 | 38.5 | -15.0 | |
| 824.20 | 17.72 | H | 0.9 | 0.0 | 16.82 | 38.5 | -21.6 | |
| Mid Ch | | | | | | | | |
| 836.60 | 25.42 | V | 0.9 | 0.0 | 24.52 | 38.5 | -13.9 | |
| 836.60 | 17.44 | H | 0.9 | 0.0 | 16.54 | 38.5 | -21.9 | |
| High Ch | | | | | | | | |
| 848.80 | 24.48 | V | 0.9 | 0.0 | 23.58 | 38.5 | -14.9 | |
| 848.80 | 17.50 | H | 0.9 | 0.0 | 16.60 | 38.5 | -21.8 | |

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm



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Band

GSM 850

GPRS

**High Frequency Substitution Measurement**
**UL Verification Services, Inc. Chamber C**

**Company:** Sony
**Project #:** 15I20030
**Date:** 03/05/15
**Test Engineer:** Charles Vergonio
**Configuration:** EUT Y-position
**Mode:** GPRS850

**Test Equipment:**
**Receiving: Hybrid T185, and Chamber C N-type Cable**
**Substitution: Dipole T273, 8ft SMA Cable Warehouse.**

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Cable Loss (dB) | Antenna Gain (dBd) | ERP (dBm) | Limit (dBm) | Margin (dB) | Notes |
|---|---|---|---|---|---|---|---|---|
| Low Ch | | | | | | | | |
| 824.20 | 30.37 | V | 0.9 | 0.0 | 29.47 | 38.5 | -9.0 | |
| 824.20 | 21.92 | H | 0.9 | 0.0 | 21.02 | 38.5 | -17.4 | |
| Mid Ch | | | | | | | | |
| 836.60 | 30.07 | V | 0.9 | 0.0 | 29.17 | 38.5 | -9.3 | |
| 836.60 | 21.19 | H | 0.9 | 0.0 | 20.29 | 38.5 | -18.2 | |
| High Ch | | | | | | | | |
| 848.80 | 31.31 | V | 0.9 | 0.0 | 30.41 | 38.5 | -8.0 | |
| 848.80 | 22.27 | H | 0.9 | 0.0 | 21.37 | 38.5 | -17.1 | |

Rev. 3.17.11
Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm




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## 11.2. FIELD STRENGTH OF SPURIOUS RADIATION

**RULE PART(S)**

FCC: §2.1053, §22.917(a), §24.238 (a), §27. 53 (g)

**LIMITS**

Part 22.917(a) & Part 24.238(a) 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 + 10 log (P) dB.

Part 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

**TEST PROCEDURE**

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

**MODES TESTED**

GSM, WCDMA, and LTE

**RESULTS**



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## 11.2.1. SPURIOUS RADIATION PLOTS

**LTE Band 17**

**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE17 10M 16QAM HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 27 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch,709MHz | | | | | | | | | |
| LTE17 | 1.418 | -26.5 | V | 3.0 | 37.8 | 1.0 | -63.2 | -13.0 | -50.2 | |
| | 2.127 | -21.2 | V | 3.0 | 36.7 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 10MHz | 2.836 | -19.4 | V | 3.0 | 36.2 | 1.0 | -54.6 | -13.0 | -41.6 | |
| | 1.418 | -25.6 | H | 3.0 | 37.8 | 1.0 | -62.4 | -13.0 | -49.4 | |
| | 2.127 | -22.3 | H | 3.0 | 36.7 | 1.0 | -58.0 | -13.0 | -45.0 | |
| 16QAM | 2.836 | -19.7 | H | 3.0 | 36.2 | 1.0 | -54.9 | -13.0 | -41.9 | |
| | Mid Ch,710MHz | | | | | | | | | |
| | 1.420 | -25.7 | V | 3.0 | 37.8 | 1.0 | -62.5 | -13.0 | -49.5 | |
| | 2.130 | -21.2 | V | 3.0 | 36.7 | 1.0 | -56.9 | -13.0 | -43.9 | |
| | 2.840 | -19.4 | V | 3.0 | 36.2 | 1.0 | -54.6 | -13.0 | -41.6 | |
| | 1.420 | -26.3 | H | 3.0 | 37.8 | 1.0 | -63.1 | -13.0 | -50.1 | |
| | 2.130 | -22.1 | H | 3.0 | 36.7 | 1.0 | -57.8 | -13.0 | -44.8 | |
| | 2.840 | -20.1 | H | 3.0 | 36.2 | 1.0 | -55.3 | -13.0 | -42.3 | |
| | High Ch, 711MHz | | | | | | | | | |
| | 1.422 | -26.8 | V | 3.0 | 37.8 | 1.0 | -63.5 | -13.0 | -50.5 | |
| | 2.133 | -21.4 | V | 3.0 | 36.7 | 1.0 | -57.1 | -13.0 | -44.1 | |
| | 2.844 | -18.9 | V | 3.0 | 36.2 | 1.0 | -54.1 | -13.0 | -41.1 | |
| | 1.422 | -26.8 | H | 3.0 | 37.8 | 1.0 | -63.6 | -13.0 | -50.6 | |
| | 2.133 | -21.8 | H | 3.0 | 36.7 | 1.0 | -57.5 | -13.0 | -44.5 | |
| | 2.844 | -20.1 | H | 3.0 | 36.2 | 1.0 | -55.2 | -13.0 | -42.2 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE17 10M QPSK HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 27 |

Band: LTE17 10MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch,709MHz | | | | | | | | | |
| 1.418 | -26.6 | V | 3.0 | 37.8 | 1.0 | -63.4 | -13.0 | -50.4 | |
| 2.127 | -21.2 | V | 3.0 | 36.7 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 2.836 | -19.5 | V | 3.0 | 36.2 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 1.418 | -26.4 | H | 3.0 | 37.8 | 1.0 | -63.2 | -13.0 | -50.2 | |
| 2.127 | -21.7 | H | 3.0 | 36.7 | 1.0 | -57.4 | -13.0 | -44.4 | |
| 2.836 | -19.5 | H | 3.0 | 36.2 | 1.0 | -54.7 | -13.0 | -41.7 | |
| Mid Ch,710MHz | | | | | | | | | |
| 1.420 | -26.7 | V | 3.0 | 37.8 | 1.0 | -63.5 | -13.0 | -50.5 | |
| 2.130 | -21.4 | V | 3.0 | 36.7 | 1.0 | -57.0 | -13.0 | -44.0 | |
| 2.840 | -19.2 | V | 3.0 | 36.2 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 1.420 | -26.3 | H | 3.0 | 37.8 | 1.0 | -63.1 | -13.0 | -50.1 | |
| 2.130 | -22.1 | H | 3.0 | 36.7 | 1.0 | -57.8 | -13.0 | -44.8 | |
| 2.840 | -19.8 | H | 3.0 | 36.2 | 1.0 | -55.0 | -13.0 | -42.0 | |
| High Ch, 711MHz | | | | | | | | | |
| 1.422 | -26.0 | V | 3.0 | 37.8 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 2.133 | -21.4 | V | 3.0 | 36.7 | 1.0 | -57.1 | -13.0 | -44.1 | |
| 2.844 | -19.3 | V | 3.0 | 36.2 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 1.422 | -25.9 | H | 3.0 | 37.8 | 1.0 | -62.7 | -13.0 | -49.7 | |
| 2.133 | -21.8 | H | 3.0 | 36.7 | 1.0 | -57.5 | -13.0 | -44.5 | |
| 2.844 | -20.0 | H | 3.0 | 36.2 | 1.0 | -55.2 | -13.0 | -42.2 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE17 5M 16QAM HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 27 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch,706.5MHz | | | | | | | | | |
| LTE17 | 1.413 | -27.0 | V | 3.0 | 37.8 | 1.0 | -63.8 | -13.0 | -50.8 | |
| | 2.120 | -21.0 | V | 3.0 | 36.7 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5MHz | 2.283 | -20.6 | V | 3.0 | 36.6 | 1.0 | -56.1 | -13.0 | -43.1 | |
| | 1.413 | -25.9 | H | 3.0 | 37.8 | 1.0 | -62.7 | -13.0 | -49.7 | |
| | 2.120 | -21.7 | H | 3.0 | 36.7 | 1.0 | -57.4 | -13.0 | -44.4 | |
| 16QAM | 2.283 | -22.2 | H | 3.0 | 36.6 | 1.0 | -57.7 | -13.0 | -44.7 | |
| | Mid Ch,710MHz | | | | | | | | | |
| | 1.420 | -26.6 | V | 3.0 | 37.8 | 1.0 | -63.4 | -13.0 | -50.4 | |
| | 2.130 | -20.7 | V | 3.0 | 36.7 | 1.0 | -56.4 | -13.0 | -43.4 | |
| | 2.840 | -19.0 | V | 3.0 | 36.2 | 1.0 | -54.2 | -13.0 | -41.2 | |
| | 1.420 | -26.0 | H | 3.0 | 37.8 | 1.0 | -62.7 | -13.0 | -49.7 | |
| | 2.130 | -22.0 | H | 3.0 | 36.7 | 1.0 | -57.7 | -13.0 | -44.7 | |
| | 2.840 | -19.6 | H | 3.0 | 36.2 | 1.0 | -54.8 | -13.0 | -41.8 | |
| | High Ch, 713.5MHz | | | | | | | | | |
| | 1.427 | -26.6 | V | 3.0 | 37.7 | 1.0 | -63.4 | -13.0 | -50.4 | |
| | 2.141 | -20.8 | V | 3.0 | 36.7 | 1.0 | -56.5 | -13.0 | -43.5 | |
| | 2.854 | -19.5 | V | 3.0 | 36.2 | 1.0 | -54.7 | -13.0 | -41.7 | |
| | 1.427 | -26.3 | H | 3.0 | 37.7 | 1.0 | -63.0 | -13.0 | -50.0 | |
| | 2.141 | -21.9 | H | 3.0 | 36.7 | 1.0 | -57.5 | -13.0 | -44.5 | |
| | 2.854 | -19.8 | H | 3.0 | 36.2 | 1.0 | -55.0 | -13.0 | -42.0 | |
| | | | | | | | | | | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE17 5M QPSK HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 27 |

Band: LTE17 5MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch,706.5MHz | | | | | | | | | |
| 1.413 | -26.0 | V | 3.0 | 37.8 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 2.120 | -21.5 | V | 3.0 | 36.7 | 1.0 | -57.2 | -13.0 | -44.2 | |
| 2.283 | -21.1 | V | 3.0 | 36.6 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 1.413 | -26.5 | H | 3.0 | 37.8 | 1.0 | -63.3 | -13.0 | -50.3 | |
| 2.120 | -21.9 | H | 3.0 | 36.7 | 1.0 | -57.6 | -13.0 | -44.6 | |
| 2.283 | -21.6 | H | 3.0 | 36.6 | 1.0 | -57.1 | -13.0 | -44.1 | |
| Mid Ch,710MHz | | | | | | | | | |
| 1.420 | -26.5 | V | 3.0 | 37.8 | 1.0 | -63.3 | -13.0 | -50.3 | |
| 2.130 | -21.1 | V | 3.0 | 36.7 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 2.840 | -19.1 | V | 3.0 | 36.2 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 1.420 | -26.5 | H | 3.0 | 37.8 | 1.0 | -63.2 | -13.0 | -50.2 | |
| 2.130 | -22.3 | H | 3.0 | 36.7 | 1.0 | -58.0 | -13.0 | -45.0 | |
| 2.840 | -19.3 | H | 3.0 | 36.2 | 1.0 | -54.5 | -13.0 | -41.5 | |
| High Ch, 713.5MHz | | | | | | | | | |
| 1.427 | -26.9 | V | 3.0 | 37.7 | 1.0 | -63.6 | -13.0 | -50.6 | |
| 2.141 | -21.2 | V | 3.0 | 36.7 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 2.854 | -19.2 | V | 3.0 | 36.2 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 1.427 | -26.9 | H | 3.0 | 37.7 | 1.0 | -63.6 | -13.0 | -50.6 | |
| 2.141 | -22.2 | H | 3.0 | 36.7 | 1.0 | -57.9 | -13.0 | -44.9 | |
| 2.854 | -20.0 | H | 3.0 | 36.2 | 1.0 | -55.1 | -13.0 | -42.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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**LTE Band 12**

**UL Verification Services Chamber A**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth

Band

LTE12

10MHz

16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch,704 | | | | | | | | | |
| 1408.00 | -12.9 | V | 3.0 | 37.4 | 1.0 | -49.3 | -13.0 | -36.3 | |
| 2112.00 | -28.2 | V | 3.0 | 36.6 | 1.0 | -63.7 | -13.0 | -50.7 | |
| 2816.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1408.00 | -11.4 | H | 3.0 | 37.4 | 1.0 | -47.7 | -13.0 | -34.7 | |
| 2112.00 | -29.6 | H | 3.0 | 36.6 | 1.0 | -65.2 | -13.0 | -52.2 | |
| 2816.00 | -28.5 | H | 3.0 | 36.4 | 1.0 | -63.9 | -13.0 | -50.9 | |
| Mid Ch,707.5 | | | | | | | | | |
| 1415.00 | -10.7 | V | 3.0 | 37.3 | 1.0 | -47.1 | -13.0 | -34.1 | |
| 2122.50 | -22.3 | V | 3.0 | 36.6 | 1.0 | -57.9 | -13.0 | -44.9 | |
| 2830.00 | -27.6 | V | 3.0 | 36.4 | 1.0 | -63.0 | -13.0 | -50.0 | |
| 1415.00 | -8.7 | H | 3.0 | 37.3 | 1.0 | -45.1 | -13.0 | -32.1 | |
| 2122.50 | -25.6 | H | 3.0 | 36.6 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 2830.00 | -28.5 | H | 3.0 | 36.4 | 1.0 | -63.9 | -13.0 | -50.9 | |
| High Ch,711 | | | | | | | | | |
| 1422.00 | -10.4 | V | 3.0 | 37.3 | 1.0 | -46.7 | -13.0 | -33.7 | |
| 2133.00 | -25.6 | V | 3.0 | 36.6 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 2844.00 | -23.1 | V | 3.0 | 36.4 | 1.0 | -58.5 | -13.0 | -45.5 | |
| 1422.00 | -10.4 | H | 3.0 | 37.3 | 1.0 | -46.7 | -13.0 | -33.7 | |
| 2133.00 | -27.7 | H | 3.0 | 36.6 | 1.0 | -63.3 | -13.0 | -50.3 | |
| 2844.00 | -26.3 | H | 3.0 | 36.4 | 1.0 | -61.6 | -13.0 | -48.6 | |





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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth

Band
LTE12
10MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch,704 | | | | | | | | | |
| 1408.00 | -13.9 | V | 3.0 | 37.4 | 1.0 | -50.3 | -13.0 | -37.3 | |
| 2112.00 | -27.7 | V | 3.0 | 36.6 | 1.0 | -63.2 | -13.0 | -50.2 | |
| 2816.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1408.00 | -12.0 | H | 3.0 | 37.4 | 1.0 | -48.4 | -13.0 | -35.4 | |
| 2112.00 | -29.5 | H | 3.0 | 36.6 | 1.0 | -65.1 | -13.0 | -52.1 | |
| 2816.00 | -28.5 | H | 3.0 | 36.4 | 1.0 | -63.9 | -13.0 | -50.9 | |
| Mid Ch,707.5 | | | | | | | | | |
| 1415.00 | -11.2 | V | 3.0 | 37.3 | 1.0 | -47.6 | -13.0 | -34.6 | |
| 2122.50 | -22.3 | V | 3.0 | 36.6 | 1.0 | -57.8 | -13.0 | -44.8 | |
| 2830.00 | -27.6 | V | 3.0 | 36.4 | 1.0 | -63.0 | -13.0 | -50.0 | |
| 1415.00 | -10.1 | H | 3.0 | 37.3 | 1.0 | -46.5 | -13.0 | -33.5 | |
| 2122.50 | -25.9 | H | 3.0 | 36.6 | 1.0 | -61.4 | -13.0 | -48.4 | |
| 2830.00 | -28.6 | H | 3.0 | 36.4 | 1.0 | -63.9 | -13.0 | -50.9 | |
| High Ch,711 | | | | | | | | | |
| 1422.00 | -11.7 | V | 3.0 | 37.3 | 1.0 | -48.0 | -13.0 | -35.0 | |
| 2133.00 | -25.8 | V | 3.0 | 36.6 | 1.0 | -61.4 | -13.0 | -48.4 | |
| 2844.00 | -27.3 | V | 3.0 | 36.4 | 1.0 | -62.7 | -13.0 | -49.7 | |
| 1422.00 | -11.8 | H | 3.0 | 37.3 | 1.0 | -48.1 | -13.0 | -35.1 | |
| 2133.00 | -27.3 | H | 3.0 | 36.6 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 2844.00 | -28.0 | H | 3.0 | 36.4 | 1.0 | -63.4 | -13.0 | -50.4 | |


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47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth

Band

LTE12

5MHz

16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 701.50 | | | | | | | | | |
| 1403.00 | -5.5 | V | 3.0 | 37.4 | 1.0 | -41.8 | -13.0 | -28.8 | |
| 2104.50 | -25.1 | V | 3.0 | 36.6 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 2806.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1403.00 | -12.0 | H | 3.0 | 37.4 | 1.0 | -48.3 | -13.0 | -35.3 | |
| 2104.50 | -29.6 | H | 3.0 | 36.6 | 1.0 | -65.2 | -13.0 | -52.2 | |
| 2806.00 | -28.5 | H | 3.0 | 36.4 | 1.0 | -63.9 | -13.0 | -50.9 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -4.0 | V | 3.0 | 37.3 | 1.0 | -40.3 | -13.0 | -27.3 | |
| 2122.50 | -16.8 | V | 3.0 | 36.6 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 2830.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 1415.00 | -5.9 | H | 3.0 | 37.3 | 1.0 | -42.2 | -13.0 | -29.2 | |
| 2122.50 | -22.5 | H | 3.0 | 36.6 | 1.0 | -58.1 | -13.0 | -45.1 | |
| 2830.00 | -28.4 | H | 3.0 | 36.4 | 1.0 | -63.8 | -13.0 | -50.8 | |
| High Ch, 713.50 | | | | | | | | | |
| 1427.00 | -12.1 | V | 3.0 | 37.3 | 1.0 | -48.4 | -13.0 | -35.4 | |
| 2140.50 | -27.0 | V | 3.0 | 36.6 | 1.0 | -62.6 | -13.0 | -49.6 | |
| 2854.00 | -27.7 | V | 3.0 | 36.4 | 1.0 | -63.1 | -13.0 | -50.1 | |
| 1427.00 | -13.2 | H | 3.0 | 37.3 | 1.0 | -49.5 | -13.0 | -36.5 | |
| 2140.50 | -23.2 | H | 3.0 | 36.6 | 1.0 | -58.8 | -13.0 | -45.8 | |
| 2854.00 | -28.4 | H | 3.0 | 36.4 | 1.0 | -63.7 | -13.0 | -50.7 | |





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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth

Band
LTE12
5MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 701.50 | | | | | | | | | |
| 1403.00 | -5.2 | V | 3.0 | 37.4 | 1.0 | -41.5 | -13.0 | -28.5 | |
| 2104.50 | -25.0 | V | 3.0 | 36.6 | 1.0 | -60.5 | -13.0 | -47.5 | |
| 2806.00 | -27.3 | V | 3.0 | 36.4 | 1.0 | -62.7 | -13.0 | -49.7 | |
| 1403.00 | -12.3 | H | 3.0 | 37.4 | 1.0 | -48.7 | -13.0 | -35.7 | |
| 2104.50 | -29.6 | H | 3.0 | 36.6 | 1.0 | -65.2 | -13.0 | -52.2 | |
| 2806.00 | -28.4 | H | 3.0 | 36.4 | 1.0 | -63.8 | -13.0 | -50.8 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -5.0 | V | 3.0 | 37.3 | 1.0 | -41.4 | -13.0 | -28.4 | |
| 2122.50 | -16.2 | V | 3.0 | 36.6 | 1.0 | -51.8 | -13.0 | -38.8 | |
| 2830.00 | -27.4 | V | 3.0 | 36.4 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 1415.00 | -6.1 | H | 3.0 | 37.3 | 1.0 | -42.5 | -13.0 | -29.5 | |
| 2122.50 | -22.7 | H | 3.0 | 36.6 | 1.0 | -58.2 | -13.0 | -45.2 | |
| 2830.00 | -28.3 | H | 3.0 | 36.4 | 1.0 | -63.7 | -13.0 | -50.7 | |
| High Ch, 713.50 | | | | | | | | | |
| 1427.00 | -12.7 | V | 3.0 | 37.3 | 1.0 | -49.0 | -13.0 | -36.0 | |
| 2140.50 | -26.6 | V | 3.0 | 36.6 | 1.0 | -62.2 | -13.0 | -49.2 | |
| 2854.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1427.00 | -13.0 | H | 3.0 | 37.3 | 1.0 | -49.3 | -13.0 | -36.3 | |
| 2140.50 | -22.9 | H | 3.0 | 36.6 | 1.0 | -58.4 | -13.0 | -45.4 | |
| 2854.00 | -28.5 | H | 3.0 | 36.4 | 1.0 | -63.8 | -13.0 | -50.8 | |


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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth

Band
LTE12
3MHz
16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 700.5 | | | | | | | | | |
| 1401.00 | -4.9 | V | 3.0 | 37.4 | 1.0 | -41.3 | -13.0 | -28.3 | |
| 2101.50 | -23.6 | V | 3.0 | 36.6 | 1.0 | -59.1 | -13.0 | -46.1 | |
| 2802.00 | -27.8 | V | 3.0 | 36.4 | 1.0 | -63.2 | -13.0 | -50.2 | |
| 1401.00 | -3.1 | H | 3.0 | 37.4 | 1.0 | -39.5 | -13.0 | -26.5 | |
| 2101.50 | -27.8 | H | 3.0 | 36.6 | 1.0 | -63.3 | -13.0 | -50.3 | |
| 2802.00 | -28.7 | H | 3.0 | 36.4 | 1.0 | -64.0 | -13.0 | -51.0 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -3.5 | V | 3.0 | 37.3 | 1.0 | -39.9 | -13.0 | -26.9 | |
| 2122.00 | -17.4 | V | 3.0 | 36.6 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 2830.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 1415.00 | -2.7 | H | 3.0 | 37.3 | 1.0 | -39.0 | -13.0 | -26.0 | |
| 2122.00 | -20.7 | H | 3.0 | 36.6 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 2830.00 | -28.4 | H | 3.0 | 36.4 | 1.0 | -63.7 | -13.0 | -50.7 | |
| High Ch, 714.5 | | | | | | | | | |
| 1429.00 | -1.3 | V | 3.0 | 37.3 | 1.0 | -37.6 | -13.0 | -24.6 | |
| 2143.50 | -23.3 | V | 3.0 | 36.6 | 1.0 | -58.8 | -13.0 | -45.8 | |
| 2858.00 | -27.0 | V | 3.0 | 36.4 | 1.0 | -62.4 | -13.0 | -49.4 | |
| 1429.00 | -1.8 | H | 3.0 | 37.3 | 1.0 | -38.1 | -13.0 | -25.1 | |
| 2143.50 | -27.0 | H | 3.0 | 36.6 | 1.0 | -62.6 | -13.0 | -49.6 | |
| 2858.00 | -28.1 | H | 3.0 | 36.4 | 1.0 | -63.5 | -13.0 | -50.5 | |


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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth

Band
LTE12
3MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 700.5 | | | | | | | | | |
| 1401.00 | -5.7 | V | 3.0 | 37.4 | 1.0 | -42.1 | -13.0 | -29.1 | |
| 2101.50 | -24.0 | V | 3.0 | 36.6 | 1.0 | -59.5 | -13.0 | -46.5 | |
| 2802.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1401.00 | -4.1 | H | 3.0 | 37.4 | 1.0 | -40.4 | -13.0 | -27.4 | |
| 2101.50 | -27.5 | H | 3.0 | 36.6 | 1.0 | -63.1 | -13.0 | -50.1 | |
| 2802.00 | -28.7 | H | 3.0 | 36.4 | 1.0 | -64.1 | -13.0 | -51.1 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -4.6 | V | 3.0 | 37.3 | 1.0 | -40.9 | -13.0 | -27.9 | |
| 2122.00 | -17.5 | V | 3.0 | 36.6 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 2830.00 | -27.4 | V | 3.0 | 36.4 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 1415.00 | -4.0 | H | 3.0 | 37.3 | 1.0 | -40.3 | -13.0 | -27.3 | |
| 2122.00 | -20.6 | H | 3.0 | 36.6 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 2830.00 | -28.4 | H | 3.0 | 36.4 | 1.0 | -63.7 | -13.0 | -50.7 | |
| High Ch, 714.5 | | | | | | | | | |
| 1429.00 | -1.4 | V | 3.0 | 37.3 | 1.0 | -37.8 | -13.0 | -24.8 | |
| 2143.50 | -23.5 | V | 3.0 | 36.6 | 1.0 | -59.1 | -13.0 | -46.1 | |
| 2858.00 | -27.1 | V | 3.0 | 36.4 | 1.0 | -62.4 | -13.0 | -49.4 | |
| 1429.00 | -2.6 | H | 3.0 | 37.3 | 1.0 | -39.0 | -13.0 | -26.0 | |
| 2143.50 | -27.5 | H | 3.0 | 36.6 | 1.0 | -63.1 | -13.0 | -50.1 | |
| 2858.00 | -28.2 | H | 3.0 | 36.4 | 1.0 | -63.5 | -13.0 | -50.5 | |


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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth

Band
LTE12
1.4MHz
16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 699.7 | | | | | | | | | |
| 1399.40 | -5.6 | V | 3.0 | 37.4 | 1.0 | -42.0 | -13.0 | -29.0 | |
| 2099.10 | -26.2 | V | 3.0 | 36.6 | 1.0 | -61.7 | -13.0 | -48.7 | |
| 2798.80 | -27.0 | V | 3.0 | 36.4 | 1.0 | -62.3 | -13.0 | -49.3 | |
| 1399.40 | -3.3 | H | 3.0 | 37.4 | 1.0 | -39.7 | -13.0 | -26.7 | |
| 2099.10 | -28.3 | H | 3.0 | 36.6 | 1.0 | -63.9 | -13.0 | -50.9 | |
| 2798.80 | -28.7 | H | 3.0 | 36.4 | 1.0 | -64.1 | -13.0 | -51.1 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -3.4 | V | 3.0 | 37.3 | 1.0 | -39.7 | -13.0 | -26.7 | |
| 2122.00 | -20.4 | V | 3.0 | 36.6 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 2830.00 | -27.5 | V | 3.0 | 36.4 | 1.0 | -62.9 | -13.0 | -49.9 | |
| 1415.00 | -3.6 | H | 3.0 | 37.3 | 1.0 | -40.0 | -13.0 | -27.0 | |
| 2122.00 | -24.2 | H | 3.0 | 36.6 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2830.00 | -28.3 | H | 3.0 | 36.4 | 1.0 | -63.7 | -13.0 | -50.7 | |
| High Ch, 715.3 | | | | | | | | | |
| 1430.60 | -1.0 | V | 3.0 | 37.3 | 1.0 | -37.4 | -13.0 | -24.4 | |
| 2145.90 | -23.9 | V | 3.0 | 36.6 | 1.0 | -59.4 | -13.0 | -46.4 | |
| 2861.20 | -26.1 | V | 3.0 | 36.4 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 1430.60 | -3.2 | H | 3.0 | 37.3 | 1.0 | -39.5 | -13.0 | -26.5 | |
| 2145.90 | -28.4 | H | 3.0 | 36.6 | 1.0 | -63.9 | -13.0 | -50.9 | |
| 2861.20 | -28.2 | H | 3.0 | 36.4 | 1.0 | -63.6 | -13.0 | -50.6 | |


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## UL Verification Services Chamber A
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT AC charger and HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth

Band
LTE12
1.4MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 699.7 | | | | | | | | | |
| 1399.40 | -5.6 | V | 3.0 | 37.4 | 1.0 | -42.0 | -13.0 | -29.0 | |
| 2099.10 | -26.4 | V | 3.0 | 36.6 | 1.0 | -61.9 | -13.0 | -48.9 | |
| 2798.80 | -27.3 | V | 3.0 | 36.4 | 1.0 | -62.6 | -13.0 | -49.6 | |
| 1399.40 | -4.1 | H | 3.0 | 37.4 | 1.0 | -40.4 | -13.0 | -27.4 | |
| 2099.10 | -27.1 | H | 3.0 | 36.6 | 1.0 | -62.6 | -13.0 | -49.6 | |
| 2798.80 | -28.7 | H | 3.0 | 36.4 | 1.0 | -64.0 | -13.0 | -51.0 | |
| Mid Ch, 707.50 | | | | | | | | | |
| 1415.00 | -3.7 | V | 3.0 | 37.3 | 1.0 | -40.0 | -13.0 | -27.0 | |
| 2122.00 | -19.9 | V | 3.0 | 36.6 | 1.0 | -55.5 | -13.0 | -42.5 | |
| 2830.00 | -27.4 | V | 3.0 | 36.4 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 1415.00 | -3.8 | H | 3.0 | 37.3 | 1.0 | -40.2 | -13.0 | -27.2 | |
| 2122.00 | -23.8 | H | 3.0 | 36.6 | 1.0 | -59.4 | -13.0 | -46.4 | |
| 2830.00 | -28.3 | H | 3.0 | 36.4 | 1.0 | -63.6 | -13.0 | -50.6 | |
| High Ch, 715.3 | | | | | | | | | |
| 1430.60 | -1.9 | V | 3.0 | 37.3 | 1.0 | -38.2 | -13.0 | -25.2 | |
| 2145.90 | -23.3 | V | 3.0 | 36.6 | 1.0 | -58.9 | -13.0 | -45.9 | |
| 2861.20 | -27.0 | V | 3.0 | 36.4 | 1.0 | -62.4 | -13.0 | -49.4 | |
| 1430.60 | -2.9 | H | 3.0 | 37.3 | 1.0 | -39.2 | -13.0 | -26.2 | |
| 2145.90 | -27.2 | H | 3.0 | 36.6 | 1.0 | -62.8 | -13.0 | -49.8 | |
| 2861.20 | -28.1 | H | 3.0 | 36.4 | 1.0 | -63.5 | -13.0 | -50.5 | |


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## LTE Band 7

**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 7 Harmonics, 20MHz Bandwidth

Band LTE7 20MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2510 | | | | | | | | | |
| 5020.00 | -20.6 | V | 3.0 | 35.5 | 1.0 | -55.1 | -25.0 | -30.1 | |
| 7530.00 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10040.00 | -16.8 | V | 3.0 | 36.0 | 1.0 | -51.8 | -25.0 | -26.8 | |
| 5020.00 | -20.1 | H | 3.0 | 35.5 | 1.0 | -54.6 | -25.0 | -29.6 | |
| 7530.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.7 | -25.0 | -27.7 | |
| 10040.00 | -15.7 | H | 3.0 | 36.0 | 1.0 | -50.7 | -25.0 | -25.7 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -19.9 | V | 3.0 | 35.4 | 1.0 | -54.4 | -25.0 | -29.4 | |
| 7605.00 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.7 | -25.0 | -28.7 | |
| 10140.00 | -16.5 | V | 3.0 | 36.0 | 1.0 | -51.5 | -25.0 | -26.5 | |
| 5070.00 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.2 | -25.0 | -29.2 | |
| 7605.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.7 | -25.0 | -27.7 | |
| 10140.00 | -15.6 | H | 3.0 | 36.0 | 1.0 | -50.5 | -25.0 | -25.5 | |
| High Ch, 2560 | | | | | | | | | |
| 5120.00 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.7 | -25.0 | -29.7 | |
| 7680.00 | -18.6 | V | 3.0 | 35.8 | 1.0 | -53.4 | -25.0 | -28.4 | |
| 10240.00 | -16.4 | V | 3.0 | 35.9 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 5120.00 | -19.0 | H | 3.0 | 35.4 | 1.0 | -53.4 | -25.0 | -28.4 | |
| 7680.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.7 | -25.0 | -27.7 | |
| 10240.00 | -15.8 | H | 3.0 | 35.9 | 1.0 | -50.7 | -25.0 | -25.7 | |


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Band
LTE7
20MHz
QPSK

**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 7 Harmonics, 20MHz Bandwidth

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2510 | | | | | | | | | |
| 5020.00 | -20.4 | V | 3.0 | 35.5 | 1.0 | -54.9 | -25.0 | -29.9 | |
| 7530.00 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10040.00 | -16.7 | V | 3.0 | 36.0 | 1.0 | -51.8 | -25.0 | -26.8 | |
| 5020.00 | -19.9 | H | 3.0 | 35.5 | 1.0 | -54.4 | -25.0 | -29.4 | |
| 7530.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.7 | -25.0 | -27.7 | |
| 10040.00 | -15.8 | H | 3.0 | 36.0 | 1.0 | -50.8 | -25.0 | -25.8 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.3 | V | 3.0 | 35.4 | 1.0 | -54.7 | -25.0 | -29.7 | |
| 7605.00 | -18.6 | V | 3.0 | 35.8 | 1.0 | -53.4 | -25.0 | -28.4 | |
| 10140.00 | -16.5 | V | 3.0 | 36.0 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5070.00 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.3 | -25.0 | -29.3 | |
| 7605.00 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.8 | H | 3.0 | 36.0 | 1.0 | -50.8 | -25.0 | -25.8 | |
| High Ch, 2560 | | | | | | | | | |
| 5120.00 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -25.0 | -29.6 | |
| 7680.00 | -18.9 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10240.00 | -16.4 | V | 3.0 | 35.9 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 5120.00 | -19.5 | H | 3.0 | 35.4 | 1.0 | -53.9 | -25.0 | -28.9 | |
| 7680.00 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.5 | -25.0 | -27.5 | |
| 10240.00 | -15.7 | H | 3.0 | 35.9 | 1.0 | -50.6 | -25.0 | -25.6 | |


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 7 Harmonics, 15MHz Bandwidth

Band
LTE7
15MHz
16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2507.5 | | | | | | | | | |
| 5015.00 | -20.4 | V | 3.0 | 35.5 | 1.0 | -54.8 | -25.0 | -29.8 | |
| 7522.50 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10030.00 | -16.9 | V | 3.0 | 36.0 | 1.0 | -51.9 | -25.0 | -26.9 | |
| 5015.00 | -20.0 | H | 3.0 | 35.5 | 1.0 | -54.5 | -25.0 | -29.5 | |
| 7522.50 | -18.2 | H | 3.0 | 35.7 | 1.0 | -52.9 | -25.0 | -27.9 | |
| 10030.00 | -15.8 | H | 3.0 | 36.0 | 1.0 | -50.8 | -25.0 | -25.8 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.3 | V | 3.0 | 35.4 | 1.0 | -54.7 | -25.0 | -29.7 | |
| 7605.00 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.7 | -25.0 | -28.7 | |
| 10140.00 | -16.5 | V | 3.0 | 36.0 | 1.0 | -51.5 | -25.0 | -26.5 | |
| 5070.00 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.2 | -25.0 | -29.2 | |
| 7605.00 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.6 | H | 3.0 | 36.0 | 1.0 | -50.5 | -25.0 | -25.5 | |
| High Ch, 2562.5 | | | | | | | | | |
| 5125.00 | -19.7 | V | 3.0 | 35.4 | 1.0 | -54.2 | -25.0 | -29.2 | |
| 7687.50 | -18.9 | V | 3.0 | 35.8 | 1.0 | -53.7 | -25.0 | -28.7 | |
| 10250.00 | -16.4 | V | 3.0 | 35.9 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 5125.00 | -18.3 | H | 3.0 | 35.4 | 1.0 | -52.8 | -25.0 | -27.8 | |
| 7687.50 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10250.00 | -15.7 | H | 3.0 | 35.9 | 1.0 | -50.6 | -25.0 | -25.6 | |


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Band

LTE7

15MHz

QPSK

**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 7 Harmonics, 15MHz Bandwidth

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2507.5 | | | | | | | | | |
| 5015.00 | -20.6 | V | 3.0 | 35.5 | 1.0 | -55.1 | -25.0 | -30.1 | |
| 7522.50 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10030.00 | -16.7 | V | 3.0 | 36.0 | 1.0 | -51.7 | -25.0 | -26.7 | |
| 5015.00 | -20.1 | H | 3.0 | 35.5 | 1.0 | -54.6 | -25.0 | -29.6 | |
| 7522.50 | -18.2 | H | 3.0 | 35.7 | 1.0 | -53.0 | -25.0 | -28.0 | |
| 10030.00 | -15.8 | H | 3.0 | 36.0 | 1.0 | -50.9 | -25.0 | -25.9 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -25.0 | -29.5 | |
| 7605.00 | -18.8 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10140.00 | -16.4 | V | 3.0 | 36.0 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5070.00 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.1 | -25.0 | -29.1 | |
| 7605.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.8 | H | 3.0 | 36.0 | 1.0 | -50.7 | -25.0 | -25.7 | |
| High Ch, 2562.5 | | | | | | | | | |
| 5125.00 | -19.9 | V | 3.0 | 35.4 | 1.0 | -54.3 | -25.0 | -29.3 | |
| 7687.50 | -18.9 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10250.00 | -16.5 | V | 3.0 | 35.9 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5125.00 | -18.5 | H | 3.0 | 35.4 | 1.0 | -52.9 | -25.0 | -27.9 | |
| 7687.50 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10250.00 | -15.7 | H | 3.0 | 35.9 | 1.0 | -50.6 | -25.0 | -25.6 | |





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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 7 Harmonics, 10MHz Bandwidth

Band LTE7 10MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2505 | | | | | | | | | |
| 5010.00 | -20.6 | V | 3.0 | 35.5 | 1.0 | -55.1 | -25.0 | -30.1 | |
| 7515.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -54.0 | -25.0 | -29.0 | |
| 10020.00 | -16.8 | V | 3.0 | 36.0 | 1.0 | -51.8 | -25.0 | -26.8 | |
| 5010.00 | -20.0 | H | 3.0 | 35.5 | 1.0 | -54.5 | -25.0 | -29.5 | |
| 7515.00 | -15.3 | H | 3.0 | 35.7 | 1.0 | -50.0 | -25.0 | -25.0 | |
| 10020.00 | -15.9 | H | 3.0 | 36.0 | 1.0 | -50.9 | -25.0 | -25.9 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.7 | -25.0 | -29.7 | |
| 7605.00 | -18.9 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10140.00 | -16.4 | V | 3.0 | 36.0 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5070.00 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.3 | -25.0 | -29.3 | |
| 7605.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.6 | H | 3.0 | 36.0 | 1.0 | -50.6 | -25.0 | -25.6 | |
| High Ch, 2565 | | | | | | | | | |
| 5130.00 | -17.8 | V | 3.0 | 35.4 | 1.0 | -52.2 | -25.0 | -27.2 | |
| 7695.00 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10260.00 | -16.4 | V | 3.0 | 35.9 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 5130.00 | -16.9 | H | 3.0 | 35.4 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 7695.00 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10260.00 | -15.8 | H | 3.0 | 35.9 | 1.0 | -50.7 | -25.0 | -25.7 | |


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 7 Harmonics, 10MHz Bandwidth

Band LTE7 10MHz QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2505 | | | | | | | | | |
| 5010.00 | -20.4 | V | 3.0 | 35.5 | 1.0 | -54.9 | -25.0 | -29.9 | |
| 7515.00 | -19.3 | V | 3.0 | 35.7 | 1.0 | -54.1 | -25.0 | -29.1 | |
| 10020.00 | -16.8 | V | 3.0 | 36.0 | 1.0 | -51.8 | -25.0 | -26.8 | |
| 5010.00 | -19.8 | H | 3.0 | 35.5 | 1.0 | -54.3 | -25.0 | -29.3 | |
| 7515.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.8 | -25.0 | -27.8 | |
| 10020.00 | -16.0 | H | 3.0 | 36.0 | 1.0 | -51.0 | -25.0 | -26.0 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -25.0 | -29.5 | |
| 7605.00 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10140.00 | -16.3 | V | 3.0 | 36.0 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 5070.00 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.1 | -25.0 | -29.1 | |
| 7605.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.7 | H | 3.0 | 36.0 | 1.0 | -50.7 | -25.0 | -25.7 | |
| High Ch, 2565 | | | | | | | | | |
| 5130.00 | -18.0 | V | 3.0 | 35.4 | 1.0 | -52.5 | -25.0 | -27.5 | |
| 7695.00 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10260.00 | -16.3 | V | 3.0 | 35.9 | 1.0 | -51.2 | -25.0 | -26.2 | |
| 5130.00 | -17.5 | H | 3.0 | 35.4 | 1.0 | -51.9 | -25.0 | -26.9 | |
| 7695.00 | -17.7 | H | 3.0 | 35.8 | 1.0 | -52.5 | -25.0 | -27.5 | |
| 10260.00 | -15.8 | H | 3.0 | 35.9 | 1.0 | -50.7 | -25.0 | -25.7 | |


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_16QAM Band 7 Harmonics, 5MHz Bandwidth

Band
LTE7
5MHz
16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2502.5 | | | | | | | | | |
| 5005.00 | -20.7 | V | 3.0 | 35.5 | 1.0 | -55.1 | -25.0 | -30.1 | |
| 7507.50 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.9 | -25.0 | -28.9 | |
| 10010.00 | -16.9 | V | 3.0 | 36.0 | 1.0 | -51.9 | -25.0 | -26.9 | |
| 5005.00 | -19.8 | H | 3.0 | 35.5 | 1.0 | -54.3 | -25.0 | -29.3 | |
| 7507.50 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.7 | -25.0 | -27.7 | |
| 10010.00 | -16.1 | H | 3.0 | 36.0 | 1.0 | -51.1 | -25.0 | -26.1 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -25.0 | -29.5 | |
| 7605.00 | -18.8 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10140.00 | -16.5 | V | 3.0 | 36.0 | 1.0 | -51.5 | -25.0 | -26.5 | |
| 5070.00 | -19.5 | H | 3.0 | 35.4 | 1.0 | -53.9 | -25.0 | -28.9 | |
| 7605.00 | -17.7 | H | 3.0 | 35.8 | 1.0 | -52.5 | -25.0 | -27.5 | |
| 10140.00 | -15.7 | H | 3.0 | 36.0 | 1.0 | -50.6 | -25.0 | -25.6 | |
| High Ch, 2567.5 | | | | | | | | | |
| 5135.00 | -16.3 | V | 3.0 | 35.4 | 1.0 | -50.8 | -25.0 | -25.8 | |
| 7702.50 | -18.8 | V | 3.0 | 35.8 | 1.0 | -53.6 | -25.0 | -28.6 | |
| 10270.00 | -16.5 | V | 3.0 | 35.9 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5135.00 | -16.9 | H | 3.0 | 35.4 | 1.0 | -51.3 | -25.0 | -26.3 | |
| 7702.50 | -17.8 | H | 3.0 | 35.8 | 1.0 | -52.5 | -25.0 | -27.5 | |
| 10270.00 | -15.7 | H | 3.0 | 35.9 | 1.0 | -50.6 | -25.0 | -25.6 | |


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/6/2015
**Test Engineer:** O. Stoelting
**Configuration:** X-pos EUT/ AC Charger/ HS
**Location:** Chamber A
**Mode:** LTE_QPSK Band 7 Harmonics, 5MHz Bandwidth

Band LTE7 5MHz QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 2502.5 | | | | | | | | | |
| 5005.00 | -20.4 | V | 3.0 | 35.5 | 1.0 | -54.8 | -25.0 | -29.8 | |
| 7507.50 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -25.0 | -28.8 | |
| 10010.00 | -16.8 | V | 3.0 | 36.0 | 1.0 | -51.8 | -25.0 | -26.8 | |
| 5005.00 | -19.9 | H | 3.0 | 35.5 | 1.0 | -54.4 | -25.0 | -29.4 | |
| 7507.50 | -18.1 | H | 3.0 | 35.7 | 1.0 | -52.9 | -25.0 | -27.9 | |
| 10010.00 | -15.9 | H | 3.0 | 36.0 | 1.0 | -50.9 | -25.0 | -25.9 | |
| Mid Ch, 2535 | | | | | | | | | |
| 5070.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.6 | -25.0 | -29.6 | |
| 7605.00 | -18.6 | V | 3.0 | 35.8 | 1.0 | -53.4 | -25.0 | -28.4 | |
| 10140.00 | -16.2 | V | 3.0 | 36.0 | 1.0 | -51.2 | -25.0 | -26.2 | |
| 5070.00 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.2 | -25.0 | -29.2 | |
| 7605.00 | -17.9 | H | 3.0 | 35.8 | 1.0 | -52.6 | -25.0 | -27.6 | |
| 10140.00 | -15.7 | H | 3.0 | 36.0 | 1.0 | -50.7 | -25.0 | -25.7 | |
| High Ch, 2567.5 | | | | | | | | | |
| 5135.00 | -16.0 | V | 3.0 | 35.4 | 1.0 | -50.4 | -25.0 | -25.4 | |
| 7702.50 | -18.7 | V | 3.0 | 35.8 | 1.0 | -53.4 | -25.0 | -28.4 | |
| 10270.00 | -16.5 | V | 3.0 | 35.9 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 5135.00 | -17.0 | H | 3.0 | 35.4 | 1.0 | -51.4 | -25.0 | -26.4 | |
| 7702.50 | -17.5 | H | 3.0 | 35.8 | 1.0 | -52.3 | -25.0 | -27.3 | |
| 10270.00 | -15.7 | H | 3.0 | 35.9 | 1.0 | -50.6 | -25.0 | -25.6 | |


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## LTE Band 5

**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 16QAM 10MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band: LTE5 10MHz 16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 829MHz | | | | | | | | | |
| 1.658 | -23.7 | V | 3.0 | 37.4 | 1.0 | -60.1 | -13.0 | -47.1 | |
| 2.487 | -18.9 | V | 3.0 | 36.4 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 3.316 | -18.3 | V | 3.0 | 35.8 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 1.658 | -23.9 | H | 3.0 | 37.4 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.487 | -20.1 | H | 3.0 | 36.4 | 1.0 | -55.4 | -13.0 | -42.4 | |
| 3.316 | -18.7 | H | 3.0 | 35.8 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.4 | V | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.510 | -19.3 | V | 3.0 | 36.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 3.346 | -18.7 | V | 3.0 | 35.8 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 1.673 | -24.0 | H | 3.0 | 37.3 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.510 | -21.0 | H | 3.0 | 36.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 3.346 | -18.4 | H | 3.0 | 35.8 | 1.0 | -53.1 | -13.0 | -40.1 | |
| High Ch, 844MHz | | | | | | | | | |
| 1.688 | -23.5 | V | 3.0 | 37.3 | 1.0 | -59.9 | -13.0 | -46.9 | |
| 2.532 | -19.9 | V | 3.0 | 36.3 | 1.0 | -55.2 | -13.0 | -42.2 | |
| 3.376 | -18.7 | V | 3.0 | 35.7 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 1.688 | -24.0 | H | 3.0 | 37.3 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.532 | -21.5 | H | 3.0 | 36.3 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 3.376 | -18.9 | H | 3.0 | 35.7 | 1.0 | -53.7 | -13.0 | -40.7 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 QPSK 10MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band: LTE5 10MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 829MHz | | | | | | | | | |
| 1.658 | -23.9 | V | 3.0 | 37.4 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.487 | -18.6 | V | 3.0 | 36.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3.316 | -18.5 | V | 3.0 | 35.8 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.658 | -24.3 | H | 3.0 | 37.4 | 1.0 | -60.6 | -13.0 | -47.6 | |
| 2.487 | -20.6 | H | 3.0 | 36.4 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 3.316 | -19.4 | H | 3.0 | 35.8 | 1.0 | -54.2 | -13.0 | -41.2 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.7 | V | 3.0 | 37.3 | 1.0 | -60.0 | -13.0 | -47.0 | |
| 2.510 | -19.5 | V | 3.0 | 36.4 | 1.0 | -54.9 | -13.0 | -41.9 | |
| 3.346 | -18.0 | V | 3.0 | 35.8 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 1.673 | -23.5 | H | 3.0 | 37.3 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2.510 | -19.9 | H | 3.0 | 36.4 | 1.0 | -55.3 | -13.0 | -42.3 | |
| 3.346 | -18.8 | H | 3.0 | 35.8 | 1.0 | -53.5 | -13.0 | -40.5 | |
| High Ch, 844MHz | | | | | | | | | |
| 1.688 | -23.4 | V | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.532 | -19.2 | V | 3.0 | 36.3 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.376 | -18.9 | V | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 1.688 | -23.3 | H | 3.0 | 37.3 | 1.0 | -59.6 | -13.0 | -46.6 | |
| 2.532 | -21.0 | H | 3.0 | 36.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 3.376 | -17.8 | H | 3.0 | 35.7 | 1.0 | -52.5 | -13.0 | -39.5 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT w/ AC Adaptor + HS, X-pos
**Mode:** LTE5 16QAM 5MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band: LTE5 5MHz 16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 826.5MHz | | | | | | | | | |
| 1.653 | -24.0 | V | 3.0 | 37.4 | 1.0 | -60.4 | -13.0 | -47.4 | |
| 2.480 | -18.7 | V | 3.0 | 36.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 3.306 | -18.5 | V | 3.0 | 35.8 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.653 | -24.3 | H | 3.0 | 37.4 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 2.480 | -20.6 | H | 3.0 | 36.4 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 3.306 | -19.7 | H | 3.0 | 35.8 | 1.0 | -54.5 | -13.0 | -41.5 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.7 | V | 3.0 | 37.3 | 1.0 | -60.0 | -13.0 | -47.0 | |
| 2.510 | -19.3 | V | 3.0 | 36.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 3.346 | -18.5 | V | 3.0 | 35.8 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 1.673 | -24.1 | H | 3.0 | 37.3 | 1.0 | -60.4 | -13.0 | -47.4 | |
| 2.510 | -21.1 | H | 3.0 | 36.4 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 3.346 | -19.5 | H | 3.0 | 35.8 | 1.0 | -54.2 | -13.0 | -41.2 | |
| High Ch, 846.5MHz | | | | | | | | | |
| 1.693 | -22.3 | V | 3.0 | 37.3 | 1.0 | -58.6 | -13.0 | -45.6 | |
| 2.540 | -19.1 | V | 3.0 | 36.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.386 | -18.0 | V | 3.0 | 35.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 1.693 | -23.5 | H | 3.0 | 37.3 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2.540 | -21.0 | H | 3.0 | 36.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 3.386 | -18.3 | H | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| | | | | | | | | | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT w/ AC Adaptor + HS, X-pos
**Mode:** LTE5 QPSK 5MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band: LTE5 5MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 826.5MHz | | | | | | | | | |
| 1.653 | -23.9 | V | 3.0 | 37.4 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.480 | -18.2 | V | 3.0 | 36.4 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 3.306 | -18.5 | V | 3.0 | 35.8 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.653 | -23.8 | H | 3.0 | 37.4 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.480 | -19.6 | H | 3.0 | 36.4 | 1.0 | -54.9 | -13.0 | -41.9 | |
| 3.306 | -19.8 | H | 3.0 | 35.8 | 1.0 | -54.6 | -13.0 | -41.6 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.6 | V | 3.0 | 37.3 | 1.0 | -59.9 | -13.0 | -46.9 | |
| 2.510 | -19.3 | V | 3.0 | 36.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 3.346 | -19.0 | V | 3.0 | 35.8 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 1.673 | -23.7 | H | 3.0 | 37.3 | 1.0 | -60.1 | -13.0 | -47.1 | |
| 2.510 | -21.1 | H | 3.0 | 36.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 3.346 | -19.2 | H | 3.0 | 35.8 | 1.0 | -54.0 | -13.0 | -41.0 | |
| High Ch, 846.5MHz | | | | | | | | | |
| 1.693 | -23.1 | V | 3.0 | 37.3 | 1.0 | -59.4 | -13.0 | -46.4 | |
| 2.540 | -19.0 | V | 3.0 | 36.3 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.386 | -18.4 | V | 3.0 | 35.7 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 1.693 | -23.2 | H | 3.0 | 37.3 | 1.0 | -59.5 | -13.0 | -46.5 | |
| 2.540 | -20.9 | H | 3.0 | 36.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 3.386 | -18.6 | H | 3.0 | 35.7 | 1.0 | -53.3 | -13.0 | -40.3 | |
| | | | | | | | | | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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## UL Verification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 16QAM 3MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band
LTE5
3MHz
16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 825.5MHz | | | | | | | | | |
| 1.651 | -23.5 | V | 3.0 | 37.4 | 1.0 | -59.9 | -13.0 | -46.9 | |
| 2.477 | -18.7 | V | 3.0 | 36.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3.302 | -18.9 | V | 3.0 | 35.8 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 1.651 | -25.0 | H | 3.0 | 37.4 | 1.0 | -61.4 | -13.0 | -48.4 | |
| 2.477 | -19.6 | H | 3.0 | 36.4 | 1.0 | -55.0 | -13.0 | -42.0 | |
| 3.302 | -19.5 | H | 3.0 | 35.8 | 1.0 | -54.2 | -13.0 | -41.2 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.6 | V | 3.0 | 37.3 | 1.0 | -59.9 | -13.0 | -46.9 | |
| 2.510 | -19.3 | V | 3.0 | 36.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 3.346 | -18.2 | V | 3.0 | 35.8 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 1.673 | -23.9 | H | 3.0 | 37.3 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.510 | -21.0 | H | 3.0 | 36.4 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 3.346 | -18.5 | H | 3.0 | 35.8 | 1.0 | -53.2 | -13.0 | -40.2 | |
| High Ch, 847.5MHz | | | | | | | | | |
| 1.695 | -22.9 | V | 3.0 | 37.3 | 1.0 | -59.2 | -13.0 | -46.2 | |
| 2.543 | -19.5 | V | 3.0 | 36.3 | 1.0 | -54.8 | -13.0 | -41.8 | |
| 3.390 | -17.7 | V | 3.0 | 35.7 | 1.0 | -52.4 | -13.0 | -39.4 | |
| 1.695 | -23.4 | H | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.543 | -21.5 | H | 3.0 | 36.3 | 1.0 | -56.8 | -13.0 | -43.8 | |
| 3.390 | -18.9 | H | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |


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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 QPSK 3MHz Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band
LTE5
3MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 825.5MHz | | | | | | | | | |
| 1.651 | -23.8 | V | 3.0 | 37.4 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.477 | -18.4 | V | 3.0 | 36.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3.302 | -18.1 | V | 3.0 | 35.8 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 1.651 | -24.4 | H | 3.0 | 37.4 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 2.477 | -19.8 | H | 3.0 | 36.4 | 1.0 | -55.2 | -13.0 | -42.2 | |
| 3.302 | -18.8 | H | 3.0 | 35.8 | 1.0 | -53.5 | -13.0 | -40.5 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.4 | V | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.510 | -19.1 | V | 3.0 | 36.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.346 | -18.7 | V | 3.0 | 35.8 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 1.673 | -23.7 | H | 3.0 | 37.3 | 1.0 | -60.1 | -13.0 | -47.1 | |
| 2.510 | -20.6 | H | 3.0 | 36.4 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 3.346 | -18.6 | H | 3.0 | 35.8 | 1.0 | -53.3 | -13.0 | -40.3 | |
| High Ch, 847.5MHz | | | | | | | | | |
| 1.695 | -23.5 | V | 3.0 | 37.3 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2.543 | -19.8 | V | 3.0 | 36.3 | 1.0 | -55.2 | -13.0 | -42.2 | |
| 3.390 | -18.7 | V | 3.0 | 35.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 1.695 | -23.5 | H | 3.0 | 37.3 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2.543 | -21.1 | H | 3.0 | 36.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 3.390 | -18.2 | H | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |


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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 1.4MHz 16QAM HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band
LTE5
1.4MHz
16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 824.7MHz | | | | | | | | | |
| 1.649 | -24.0 | V | 3.0 | 37.4 | 1.0 | -60.4 | -13.0 | -47.4 | |
| 2.474 | -18.5 | V | 3.0 | 36.4 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.299 | -18.8 | V | 3.0 | 35.8 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 1.649 | -23.9 | H | 3.0 | 37.4 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.474 | -20.7 | H | 3.0 | 36.4 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 3.299 | -19.0 | H | 3.0 | 35.8 | 1.0 | -53.8 | -13.0 | -40.8 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.4 | V | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.510 | -18.2 | V | 3.0 | 36.4 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 3.346 | -17.5 | V | 3.0 | 35.8 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 1.673 | -23.9 | H | 3.0 | 37.3 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.510 | -20.4 | H | 3.0 | 36.4 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 3.346 | -18.3 | H | 3.0 | 35.8 | 1.0 | -53.0 | -13.0 | -40.0 | |
| High Ch, 848.3MHz | | | | | | | | | |
| 1.697 | -23.0 | V | 3.0 | 37.3 | 1.0 | -59.3 | -13.0 | -46.3 | |
| 2.545 | -19.6 | V | 3.0 | 36.3 | 1.0 | -54.9 | -13.0 | -41.9 | |
| 3.393 | -18.6 | V | 3.0 | 35.7 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 1.697 | -23.4 | H | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.545 | -21.0 | H | 3.0 | 36.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 3.393 | -19.0 | H | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |


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**UL Verification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** LTE5 1.4MHz QPSK HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band
LTE5
1.4MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 824.7MHz | | | | | | | | | |
| 1.649 | -23.6 | V | 3.0 | 37.4 | 1.0 | -60.0 | -13.0 | -47.0 | |
| 2.474 | -18.5 | V | 3.0 | 36.4 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3.299 | -18.8 | V | 3.0 | 35.8 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 1.649 | -24.0 | H | 3.0 | 37.4 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.474 | -19.7 | H | 3.0 | 36.4 | 1.0 | -55.1 | -13.0 | -42.1 | |
| 3.299 | -19.1 | H | 3.0 | 35.8 | 1.0 | -53.9 | -13.0 | -40.9 | |
| Mid Ch, 836.5MHz | | | | | | | | | |
| 1.673 | -23.2 | V | 3.0 | 37.3 | 1.0 | -59.6 | -13.0 | -46.6 | |
| 2.510 | -19.0 | V | 3.0 | 36.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.346 | -18.3 | V | 3.0 | 35.8 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 1.673 | -23.9 | H | 3.0 | 37.3 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.510 | -20.3 | H | 3.0 | 36.4 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 3.346 | -18.2 | H | 3.0 | 35.8 | 1.0 | -52.9 | -13.0 | -39.9 | |
| High Ch, 848.3MHz | | | | | | | | | |
| 1.697 | -23.4 | V | 3.0 | 37.3 | 1.0 | -59.7 | -13.0 | -46.7 | |
| 2.545 | -19.2 | V | 3.0 | 36.3 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 3.393 | -18.0 | V | 3.0 | 35.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 1.697 | -23.6 | H | 3.0 | 37.3 | 1.0 | -59.9 | -13.0 | -46.9 | |
| 2.545 | -20.3 | H | 3.0 | 36.3 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 3.393 | -18.9 | H | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |


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**LTE Band 4**

**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth

Band: LTE4 20MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1720 | | | | | | | | | |
| 3440.00 | -25.9 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5160.00 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6880.00 | -19.4 | V | 3.0 | 35.7 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 3440.00 | -26.2 | H | 3.0 | 36.0 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5160.00 | -19.0 | H | 3.0 | 35.4 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 6880.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.3 | V | 3.0 | 36.0 | 1.0 | -61.3 | -13.0 | -48.3 | |
| 5197.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6930.00 | -19.3 | V | 3.0 | 35.7 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3465.00 | -25.4 | H | 3.0 | 36.0 | 1.0 | -60.4 | -13.0 | -47.4 | |
| 5197.50 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6930.00 | -17.8 | H | 3.0 | 35.7 | 1.0 | -52.4 | -13.0 | -39.4 | |
| High Ch, 1745 | | | | | | | | | |
| 3490.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5235.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6980.00 | -19.0 | V | 3.0 | 35.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 3490.00 | -25.2 | H | 3.0 | 36.0 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 5235.00 | -19.0 | H | 3.0 | 35.4 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 6980.00 | -17.6 | H | 3.0 | 35.7 | 1.0 | -52.3 | -13.0 | -39.3 | |


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**Compliance Certification Services**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth

Band
LTE4
20MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1720 | | | | | | | | | |
| 3440.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5160.00 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6880.00 | -19.6 | V | 3.0 | 35.7 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 3440.00 | -25.9 | H | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| 5160.00 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6880.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5197.50 | -19.3 | V | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6930.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3465.00 | -25.5 | H | 3.0 | 36.0 | 1.0 | -60.6 | -13.0 | -47.6 | |
| 5197.50 | -19.5 | H | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 6930.00 | -17.6 | H | 3.0 | 35.7 | 1.0 | -52.3 | -13.0 | -39.3 | |
| High Ch, 1745 | | | | | | | | | |
| 3490.00 | -25.9 | V | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| 5235.00 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 6980.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3490.00 | -25.1 | H | 3.0 | 36.0 | 1.0 | -60.1 | -13.0 | -47.1 | |
| 5235.00 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6980.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth

| Band | f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 1717.5 | | | | | | | | | |
| LTE4 | 3435.00 | -26.1 | V | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| | 5152.50 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 15MHz | 6870.00 | -19.5 | V | 3.0 | 35.7 | 1.0 | -54.2 | -13.0 | -41.2 | |
| | 3435.00 | -26.2 | H | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 16QAM | 5152.50 | -19.2 | H | 3.0 | 35.4 | 1.0 | -53.6 | -13.0 | -40.6 | |
| | 6870.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| | Mid Ch, 1732.5 | | | | | | | | | |
| | 3465.00 | -26.3 | V | 3.0 | 36.0 | 1.0 | -61.3 | -13.0 | -48.3 | |
| | 5197.50 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| | 6930.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.9 | -13.0 | -40.9 | |
| | 3465.00 | -25.8 | H | 3.0 | 36.0 | 1.0 | -60.8 | -13.0 | -47.8 | |
| | 5197.50 | -19.4 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| | 6930.00 | -17.6 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| | High Ch, 1747.5 | | | | | | | | | |
| | 3495.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| | 5242.50 | -20.3 | V | 3.0 | 35.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| | 6990.00 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| | 3495.00 | -25.9 | H | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| | 5242.50 | -18.6 | H | 3.0 | 35.4 | 1.0 | -53.0 | -13.0 | -40.0 | |
| | 6990.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth

Band: LTE4 15MHz QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1717.5 | | | | | | | | | |
| 3435.00 | -26.1 | V | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5152.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6870.00 | -19.4 | V | 3.0 | 35.7 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3435.00 | -26.3 | H | 3.0 | 36.1 | 1.0 | -61.3 | -13.0 | -48.3 | |
| 5152.50 | -19.2 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6870.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.3 | V | 3.0 | 36.0 | 1.0 | -61.3 | -13.0 | -48.3 | |
| 5197.50 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 6930.00 | -19.3 | V | 3.0 | 35.7 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3465.00 | -25.9 | H | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| 5197.50 | -19.5 | H | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 6930.00 | -17.4 | H | 3.0 | 35.7 | 1.0 | -52.0 | -13.0 | -39.0 | |
| High Ch, 1747.5 | | | | | | | | | |
| 3495.00 | -25.8 | V | 3.0 | 36.0 | 1.0 | -60.8 | -13.0 | -47.8 | |
| 5242.50 | -19.8 | V | 3.0 | 35.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 6990.00 | -19.3 | V | 3.0 | 35.7 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 3495.00 | -26.1 | H | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5242.50 | -19.6 | H | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 6990.00 | -17.7 | H | 3.0 | 35.7 | 1.0 | -52.3 | -13.0 | -39.3 | |



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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Configuration:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth

Band
LTE4
10MHz
16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1715 | | | | | | | | | |
| 3430.00 | -26.2 | V | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5145.00 | -20.3 | V | 3.0 | 35.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 6860.00 | -19.7 | V | 3.0 | 35.7 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3430.00 | -26.3 | H | 3.0 | 36.1 | 1.0 | -61.4 | -13.0 | -48.4 | |
| 5145.00 | -19.4 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6860.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.1 | V | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5197.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6930.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3465.00 | -25.2 | H | 3.0 | 36.0 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 5197.50 | -18.9 | H | 3.0 | 35.4 | 1.0 | -53.3 | -13.0 | -40.3 | |
| 6930.00 | -17.6 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| High Ch, 1750 | | | | | | | | | |
| 3500.00 | -26.1 | V | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5250.00 | -19.3 | V | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7000.00 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3500.00 | -26.0 | H | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5250.00 | -20.3 | H | 3.0 | 35.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 7000.00 | -17.3 | H | 3.0 | 35.7 | 1.0 | -52.0 | -13.0 | -39.0 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Configuration:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth

| Band | f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| LTE4 | Low Ch, 1715 | | | | | | | | | |
| | 3430.00 | -26.3 | V | 3.0 | 36.1 | 1.0 | -61.3 | -13.0 | -48.3 | |
| 10MHz | 5145.00 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| | 6860.00 | -19.6 | V | 3.0 | 35.7 | 1.0 | -54.3 | -13.0 | -41.3 | |
| QPSK | 3430.00 | -26.3 | H | 3.0 | 36.1 | 1.0 | -61.4 | -13.0 | -48.4 | |
| | 5145.00 | -19.5 | H | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| | 6860.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| | Mid Ch, 1732.5 | | | | | | | | | |
| | 3465.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| | 5197.50 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| | 6930.00 | -19.3 | V | 3.0 | 35.7 | 1.0 | -54.0 | -13.0 | -41.0 | |
| | 3465.00 | -25.4 | H | 3.0 | 36.0 | 1.0 | -60.4 | -13.0 | -47.4 | |
| | 5197.50 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| | 6930.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| | High Ch, 1750 | | | | | | | | | |
| | 3500.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| | 5250.00 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| | 7000.00 | -19.1 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| | 3500.00 | -26.0 | H | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| | 5250.00 | -19.2 | H | 3.0 | 35.4 | 1.0 | -53.6 | -13.0 | -40.6 | |
| | 7000.00 | -17.4 | H | 3.0 | 35.7 | 1.0 | -52.1 | -13.0 | -39.1 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth

Band: LTE4 5MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1712.5 | | | | | | | | | |
| 3425.00 | -26.1 | V | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5137.50 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 6850.00 | -19.4 | V | 3.0 | 35.7 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 3425.00 | -25.7 | H | 3.0 | 36.1 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 5137.50 | -19.5 | H | 3.0 | 35.4 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 6850.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.2 | V | 3.0 | 36.0 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5197.50 | -19.3 | V | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6930.00 | -19.0 | V | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 3465.00 | -25.9 | H | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| 5197.50 | -19.1 | H | 3.0 | 35.4 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 6930.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| High Ch, 1752.5 | | | | | | | | | |
| 3505.00 | -25.8 | V | 3.0 | 36.0 | 1.0 | -60.8 | -13.0 | -47.8 | |
| 5257.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 7010.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.9 | -13.0 | -40.9 | |
| 3505.00 | -26.0 | H | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5257.50 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7010.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.2 | -13.0 | -39.2 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth

Band
LTE4
5MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1712.5 | | | | | | | | | |
| 3425.00 | -26.2 | V | 3.0 | 36.1 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5137.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 6850.00 | -19.5 | V | 3.0 | 35.7 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 3425.00 | -25.4 | H | 3.0 | 36.1 | 1.0 | -60.5 | -13.0 | -47.5 | |
| 5137.50 | -19.4 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6850.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.1 | V | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5197.50 | -19.9 | V | 3.0 | 35.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 6930.00 | -19.2 | V | 3.0 | 35.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3465.00 | -26.0 | H | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5197.50 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 6930.00 | -17.5 | H | 3.0 | 35.7 | 1.0 | -52.1 | -13.0 | -39.1 | |
| High Ch, 1752.5 | | | | | | | | | |
| 3505.00 | -25.7 | V | 3.0 | 36.0 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 5257.50 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 7010.00 | -19.0 | V | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 3505.00 | -25.8 | H | 3.0 | 36.0 | 1.0 | -60.8 | -13.0 | -47.8 | |
| 5257.50 | -19.3 | H | 3.0 | 35.4 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7010.00 | -17.1 | H | 3.0 | 35.7 | 1.0 | -51.8 | -13.0 | -38.8 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth

Band: LTE4 3MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1711.5 | | | | | | | | | |
| 3423.00 | -26.4 | V | 3.0 | 36.1 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5134.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6846.00 | -18.6 | V | 3.0 | 35.7 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3423.00 | -26.8 | H | 3.0 | 36.1 | 1.0 | -61.9 | -13.0 | -48.9 | |
| 5134.50 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 6846.00 | -17.9 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.5 | V | 3.0 | 36.0 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5197.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6930.00 | -18.3 | V | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3465.00 | -25.9 | H | 3.0 | 36.0 | 1.0 | -60.9 | -13.0 | -47.9 | |
| 5197.50 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| 6930.00 | -17.3 | H | 3.0 | 35.7 | 1.0 | -52.0 | -13.0 | -39.0 | |
| High Ch, 1753.5 | | | | | | | | | |
| 3507.00 | -26.0 | V | 3.0 | 36.0 | 1.0 | -61.0 | -13.0 | -48.0 | |
| 5260.50 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 7014.00 | -18.2 | V | 3.0 | 35.7 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 3507.00 | -26.5 | H | 3.0 | 36.0 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5260.50 | -20.1 | H | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 7014.00 | -17.1 | H | 3.0 | 35.7 | 1.0 | -51.8 | -13.0 | -38.8 | |


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## Compliance Certification Services
## bove 1GHz High Frequency Substitution Measureme

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 3MHz Bandwidth

Band
LTE4
3MHz
QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1711.5 | | | | | | | | | |
| 3423.00 | -26.5 | V | 3.0 | 36.1 | 1.0 | -61.6 | -13.0 | -48.6 | |
| 5134.50 | -20.0 | V | 3.0 | 35.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 6846.00 | -18.7 | V | 3.0 | 35.7 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 3423.00 | -26.7 | H | 3.0 | 36.1 | 1.0 | -61.8 | -13.0 | -48.8 | |
| 5134.50 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 6846.00 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.1 | V | 3.0 | 36.0 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5197.50 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.7 | -13.0 | -41.7 | |
| 6930.00 | -18.4 | V | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3465.00 | -26.1 | H | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5197.50 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 6930.00 | -17.3 | H | 3.0 | 35.7 | 1.0 | -52.0 | -13.0 | -39.0 | |
| High Ch, 1753.5 | | | | | | | | | |
| 3507.00 | -26.4 | V | 3.0 | 36.0 | 1.0 | -61.4 | -13.0 | -48.4 | |
| 5260.50 | -20.4 | V | 3.0 | 35.4 | 1.0 | -54.8 | -13.0 | -41.8 | |
| 7014.00 | -18.3 | V | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3507.00 | -26.6 | H | 3.0 | 36.0 | 1.0 | -61.6 | -13.0 | -48.6 | |
| 5260.50 | -19.9 | H | 3.0 | 35.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 7014.00 | -17.2 | H | 3.0 | 35.7 | 1.0 | -51.9 | -13.0 | -38.9 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth

Band: LTE4 1.4MHz 16QAM

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1710.7 | | | | | | | | | |
| 3421.40 | -26.5 | V | 3.0 | 36.1 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5132.10 | -20.1 | V | 3.0 | 35.4 | 1.0 | -54.5 | -13.0 | -41.5 | |
| 6842.80 | -18.8 | V | 3.0 | 35.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 3421.40 | -26.7 | H | 3.0 | 36.1 | 1.0 | -61.8 | -13.0 | -48.8 | |
| 5132.10 | -19.8 | H | 3.0 | 35.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 6842.80 | -17.8 | H | 3.0 | 35.7 | 1.0 | -52.4 | -13.0 | -39.4 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.5 | V | 3.0 | 36.0 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5197.50 | -19.6 | V | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 6930.00 | -18.4 | V | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3465.00 | -26.0 | H | 3.0 | 36.0 | 1.0 | -61.1 | -13.0 | -48.1 | |
| 5197.50 | -19.1 | H | 3.0 | 35.4 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 6930.00 | -17.4 | H | 3.0 | 35.7 | 1.0 | -52.1 | -13.0 | -39.1 | |
| High Ch, 1754.3 | | | | | | | | | |
| 3508.60 | -26.2 | V | 3.0 | 36.0 | 1.0 | -61.2 | -13.0 | -48.2 | |
| 5262.90 | -20.5 | V | 3.0 | 35.4 | 1.0 | -54.9 | -13.0 | -41.9 | |
| 7017.20 | -18.2 | V | 3.0 | 35.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 3508.60 | -26.5 | H | 3.0 | 36.0 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5262.90 | -19.6 | H | 3.0 | 35.4 | 1.0 | -54.0 | -13.0 | -41.0 | |
| 7017.20 | -17.2 | H | 3.0 | 35.7 | 1.0 | -51.9 | -13.0 | -38.9 | |


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## Compliance Certification Services
## Above 1GHz High Frequency Substitution Measurement

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Location:** Chamber B
**Mode:** LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth

Band: LTE4 1.4MHz QPSK

| f MHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1710.7 | | | | | | | | | |
| 3421.40 | -26.6 | V | 3.0 | 36.1 | 1.0 | -61.7 | -13.0 | -48.7 | |
| 5132.10 | -20.2 | V | 3.0 | 35.4 | 1.0 | -54.6 | -13.0 | -41.6 | |
| 6842.80 | -18.8 | V | 3.0 | 35.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 3421.40 | -26.5 | H | 3.0 | 36.1 | 1.0 | -61.6 | -13.0 | -48.6 | |
| 5132.10 | -19.9 | H | 3.0 | 35.4 | 1.0 | -54.3 | -13.0 | -41.3 | |
| 6842.80 | -18.0 | H | 3.0 | 35.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| Mid Ch, 1732.5 | | | | | | | | | |
| 3465.00 | -26.5 | V | 3.0 | 36.0 | 1.0 | -61.5 | -13.0 | -48.5 | |
| 5197.50 | -19.0 | V | 3.0 | 35.4 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 6930.00 | -18.3 | V | 3.0 | 35.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3465.00 | -25.7 | H | 3.0 | 36.0 | 1.0 | -60.7 | -13.0 | -47.7 | |
| 5197.50 | -19.4 | H | 3.0 | 35.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 6930.00 | -17.3 | H | 3.0 | 35.7 | 1.0 | -52.0 | -13.0 | -39.0 | |
| High Ch, 1754.3 | | | | | | | | | |
| 3508.60 | -26.3 | V | 3.0 | 36.0 | 1.0 | -61.3 | -13.0 | -48.3 | |
| 5262.90 | -20.4 | V | 3.0 | 35.4 | 1.0 | -54.8 | -13.0 | -41.8 | |
| 7017.20 | -18.2 | V | 3.0 | 35.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 3508.60 | -26.7 | H | 3.0 | 36.0 | 1.0 | -61.7 | -13.0 | -48.7 | |
| 5262.90 | -19.7 | H | 3.0 | 35.4 | 1.0 | -54.2 | -13.0 | -41.2 | |
| 7017.20 | -17.1 | H | 3.0 | 35.7 | 1.0 | -51.8 | -13.0 | -38.8 | |


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**LTE Band 2**

**High Frequency Substitution Measurement**
**UL Verification Services, Inc.**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_20M_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band

LTE2

20MHz

16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1860MHz | | | | | | | | | |
| 3.720 | -22.1 | V | 3.0 | 35.4 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.580 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.440 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.720 | -21.8 | H | 3.0 | 35.4 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.580 | -18.8 | H | 3.0 | 34.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 7.440 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.640 | -18.5 | V | 3.0 | 34.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| 7.520 | -19.3 | V | 3.0 | 34.9 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3.760 | -21.8 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -18.9 | H | 3.0 | 34.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 7.520 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1900 MHz | | | | | | | | | |
| 3.800 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.700 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.600 | -18.7 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.800 | -21.4 | H | 3.0 | 35.3 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 5.700 | -17.2 | H | 3.0 | 34.7 | 1.0 | -50.9 | -13.0 | -37.9 | |
| 7.600 | -17.0 | H | 3.0 | 34.9 | 1.0 | -51.0 | -13.0 | -38.0 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.




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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_20M_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
20MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1860MHz | | | | | | | | | |
| 3.720 | -22.1 | V | 3.0 | 35.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.580 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.440 | -19.0 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.720 | -21.7 | H | 3.0 | 35.4 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 5.580 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.440 | -17.3 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.640 | -18.4 | V | 3.0 | 34.7 | 1.0 | -52.2 | -13.0 | -39.2 | |
| 7.520 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.760 | -21.7 | H | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.640 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.520 | -17.6 | H | 3.0 | 34.9 | 1.0 | -51.5 | -13.0 | -38.5 | |
| High Ch, 1900 MHz | | | | | | | | | |
| 3.800 | -21.8 | V | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.700 | -19.7 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.600 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 3.800 | -21.6 | H | 3.0 | 35.3 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 5.700 | -17.5 | H | 3.0 | 34.7 | 1.0 | -51.2 | -13.0 | -38.2 | |
| 7.600 | -17.3 | H | 3.0 | 34.9 | 1.0 | -51.2 | -13.0 | -38.2 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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Band

LTE2

15MHz

16QAM

## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_15M_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1857.5MHz | | | | | | | | | |
| 3.715 | -22.2 | V | 3.0 | 35.4 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 5.572 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.424 | -19.3 | V | 3.0 | 34.9 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3.715 | -21.9 | H | 3.0 | 35.4 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.572 | -18.6 | H | 3.0 | 34.7 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 7.424 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -21.9 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.640 | -19.7 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.520 | -19.2 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.7 | H | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.640 | -18.8 | H | 3.0 | 34.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 7.520 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1902.5 MHz | | | | | | | | | |
| 3.805 | -21.9 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.707 | -19.6 | V | 3.0 | 34.7 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 7.610 | -18.9 | V | 3.0 | 34.9 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 3.805 | -21.6 | H | 3.0 | 35.3 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 5.707 | -17.9 | H | 3.0 | 34.7 | 1.0 | -51.6 | -13.0 | -38.6 | |
| 7.610 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_15M_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band LTE2 15MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1857.5MHz | | | | | | | | | |
| 3.715 | -22.0 | V | 3.0 | 35.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.572 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.424 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.715 | -21.8 | H | 3.0 | 35.4 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.572 | -18.7 | H | 3.0 | 34.7 | 1.0 | -52.4 | -13.0 | -39.4 | |
| 7.424 | -17.3 | H | 3.0 | 34.9 | 1.0 | -51.2 | -13.0 | -38.2 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.640 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.520 | -19.2 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.6 | H | 3.0 | 35.3 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 5.640 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 7.520 | -17.6 | H | 3.0 | 34.9 | 1.0 | -51.5 | -13.0 | -38.5 | |
| High Ch, 1902.5 MHz | | | | | | | | | |
| 3.805 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.707 | -19.5 | V | 3.0 | 34.7 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 7.610 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.805 | -21.7 | H | 3.0 | 35.3 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 5.707 | -18.0 | H | 3.0 | 34.7 | 1.0 | -51.8 | -13.0 | -38.8 | |
| 7.610 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_10M_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
10MHz
16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1855.0MHz | | | | | | | | | |
| 3.710 | -22.2 | V | 3.0 | 35.4 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 5.565 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.420 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.710 | -21.7 | H | 3.0 | 35.4 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.565 | -18.9 | H | 3.0 | 34.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 7.420 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -21.7 | V | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.640 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.520 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 7.520 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1905 MHz | | | | | | | | | |
| 3.810 | -21.9 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.715 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.620 | -18.7 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.810 | -21.5 | H | 3.0 | 35.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 5.715 | -18.2 | H | 3.0 | 34.7 | 1.0 | -51.9 | -13.0 | -38.9 | |
| 7.620 | -17.1 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_10M_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band LTE2 10MHz QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1855.0MHz | | | | | | | | | |
| 3.710 | -22.1 | V | 3.0 | 35.4 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.565 | -19.6 | V | 3.0 | 34.7 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 7.420 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.710 | -21.8 | H | 3.0 | 35.4 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.565 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 7.420 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.5 | -13.0 | -38.5 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -21.5 | V | 3.0 | 35.3 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 5.640 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.520 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.7 | H | 3.0 | 35.3 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 5.640 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.520 | -17.7 | H | 3.0 | 34.9 | 1.0 | -51.7 | -13.0 | -38.7 | |
| High Ch, 1905 MHz | | | | | | | | | |
| 3.810 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.715 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.620 | -18.7 | V | 3.0 | 34.9 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 3.810 | -21.5 | H | 3.0 | 35.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 5.715 | -18.1 | H | 3.0 | 34.7 | 1.0 | -51.8 | -13.0 | -38.8 | |
| 7.620 | -16.9 | H | 3.0 | 34.9 | 1.0 | -50.9 | -13.0 | -37.9 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_5M_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band

LTE2

5MHz

16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1852.5MHz | | | | | | | | | |
| 3.705 | -22.2 | V | 3.0 | 35.4 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 5.557 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.410 | -19.0 | V | 3.0 | 34.9 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 3.705 | -22.0 | H | 3.0 | 35.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.557 | -18.9 | H | 3.0 | 34.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 7.410 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.2 | V | 3.0 | 35.3 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.640 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.520 | -19.2 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 7.520 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |
| High Ch, 1907.5 MHz | | | | | | | | | |
| 3.815 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.722 | -20.1 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7.630 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.815 | -21.5 | H | 3.0 | 35.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 5.722 | -18.7 | H | 3.0 | 34.7 | 1.0 | -52.4 | -13.0 | -39.4 | |
| 7.630 | -17.1 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



UL VERIFICATION SERVICES INC.
47173 BENICIA STREET, FREMONT, CA 94538, USA
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FORM NO: CCSUP4701I

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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_5M_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
5MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1852.5MHz | | | | | | | | | |
| 3.705 | -22.3 | V | 3.0 | 35.4 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5.557 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.410 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.705 | -22.0 | H | 3.0 | 35.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.557 | -19.2 | H | 3.0 | 34.7 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 7.410 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.2 | V | 3.0 | 35.3 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.640 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.520 | -19.3 | V | 3.0 | 34.9 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.520 | -17.7 | H | 3.0 | 34.9 | 1.0 | -51.6 | -13.0 | -38.6 | |
| High Ch, 1907.5 MHz | | | | | | | | | |
| 3.815 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.722 | -18.3 | V | 3.0 | 34.7 | 1.0 | -52.1 | -13.0 | -39.1 | |
| 7.630 | -18.7 | V | 3.0 | 34.9 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 3.815 | -21.5 | H | 3.0 | 35.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 5.722 | -18.8 | H | 3.0 | 34.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 7.630 | -17.1 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_3M_HARM_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
3MHz
16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1851.5MHz | | | | | | | | | |
| 3.703 | -22.3 | V | 3.0 | 35.4 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5.554 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7.406 | -19.0 | V | 3.0 | 34.9 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 3.703 | -21.5 | H | 3.0 | 35.4 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 5.554 | -18.8 | H | 3.0 | 34.7 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 7.406 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -21.8 | V | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.640 | -20.1 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7.520 | -19.2 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.640 | -18.9 | H | 3.0 | 34.7 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 7.520 | -17.2 | H | 3.0 | 34.9 | 1.0 | -51.1 | -13.0 | -38.1 | |
| High Ch, 1908.5 MHz | | | | | | | | | |
| 3.817 | -21.9 | V | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.725 | -19.7 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.634 | -18.9 | V | 3.0 | 34.9 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 3.817 | -21.6 | H | 3.0 | 35.3 | 1.0 | -55.9 | -13.0 | -42.9 | |
| 5.725 | -17.9 | H | 3.0 | 34.7 | 1.0 | -51.6 | -13.0 | -38.6 | |
| 7.634 | -17.0 | H | 3.0 | 34.9 | 1.0 | -50.9 | -13.0 | -37.9 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_3M_HARM_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
3MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1851.5MHz | | | | | | | | | |
| 3.703 | -22.3 | V | 3.0 | 35.4 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5.554 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.406 | -19.0 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.703 | -21.3 | H | 3.0 | 35.4 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 5.554 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.406 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -21.4 | V | 3.0 | 35.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 5.640 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.520 | -19.3 | V | 3.0 | 34.9 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.520 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1908.5 MHz | | | | | | | | | |
| 3.817 | -21.9 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.725 | -15.8 | V | 3.0 | 34.7 | 1.0 | -49.5 | -13.0 | -36.5 | |
| 7.634 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.817 | -21.4 | H | 3.0 | 35.3 | 1.0 | -55.7 | -13.0 | -42.7 | |
| 5.725 | -15.6 | H | 3.0 | 34.7 | 1.0 | -49.3 | -13.0 | -36.3 | |
| 7.634 | -17.1 | H | 3.0 | 34.9 | 1.0 | -51.0 | -13.0 | -38.0 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_1.4M_HARM_16QAM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band

LTE2

1.4MHz

16QAM

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1850.7MHz | | | | | | | | | |
| 3.702 | -22.3 | V | 3.0 | 35.4 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5.553 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.404 | -19.0 | V | 3.0 | 34.9 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 3.702 | -22.0 | H | 3.0 | 35.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.553 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.404 | -17.4 | H | 3.0 | 34.9 | 1.0 | -51.3 | -13.0 | -38.3 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.1 | V | 3.0 | 35.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.640 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| 7.520 | -19.1 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.640 | -19.2 | H | 3.0 | 34.7 | 1.0 | -52.9 | -13.0 | -39.9 | |
| 7.520 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1909.3 MHz | | | | | | | | | |
| 3.816 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.724 | -19.3 | V | 3.0 | 34.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| 7.632 | -18.7 | V | 3.0 | 34.9 | 1.0 | -52.6 | -13.0 | -39.6 | |
| 3.816 | -21.8 | H | 3.0 | 35.3 | 1.0 | -56.1 | -13.0 | -43.1 | |
| 5.724 | -16.9 | H | 3.0 | 34.7 | 1.0 | -50.7 | -13.0 | -37.7 | |
| 7.632 | -17.0 | H | 3.0 | 34.9 | 1.0 | -50.9 | -13.0 | -37.9 | |

Rev. 03.03.09

Note: No other emissions were detected above the system noise floor.



UL VERIFICATION SERVICES INC.
47173 BENICIA STREET, FREMONT, CA 94538, USA
TEL: (510) 771-1000
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FORM NO: CCSUP4701I

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## High Frequency Substitution Measurement
## UL Verification Services, Inc.

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** LTE2_1.4M_HARM_QPSK

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T343 8449B | Filter 1 | Part 24 |

Band
LTE2
1.4MHz
QPSK

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1850.7MHz | | | | | | | | | |
| 3.702 | -22.3 | V | 3.0 | 35.4 | 1.0 | -56.7 | -13.0 | -43.7 | |
| 5.553 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.404 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.702 | -22.1 | H | 3.0 | 35.4 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.553 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.404 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.5 | -13.0 | -38.5 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.1 | V | 3.0 | 35.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.640 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.520 | -19.2 | V | 3.0 | 34.9 | 1.0 | -53.1 | -13.0 | -40.1 | |
| 3.760 | -21.9 | H | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.640 | -19.0 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 7.520 | -17.6 | H | 3.0 | 34.9 | 1.0 | -51.6 | -13.0 | -38.6 | |
| High Ch, 1909.3 MHz | | | | | | | | | |
| 3.816 | -22.1 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| 5.724 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| 7.632 | -18.8 | V | 3.0 | 34.9 | 1.0 | -52.7 | -13.0 | -39.7 | |
| 3.816 | -21.7 | H | 3.0 | 35.3 | 1.0 | -56.0 | -13.0 | -43.0 | |
| 5.724 | -16.3 | H | 3.0 | 34.7 | 1.0 | -50.0 | -13.0 | -37.0 | |
| 7.632 | -16.8 | H | 3.0 | 34.9 | 1.0 | -50.8 | -13.0 | -37.8 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**WCDMA**

**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/04/15
**Test Engineer:** O. Stoelting
**Configuration:** EUT/AC Charger/HS
**Mode:** HSDPA_B2

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber A | T34 8449B | Filter 1 | Part 24 |

Band

Band 2

HSDPA

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1852.4MHz | | | | | | | | | |
| 3.705 | -18.0 | V | 3.0 | 35.4 | 1.0 | -52.4 | -13.0 | -39.4 | |
| 5.557 | -15.9 | V | 3.0 | 34.7 | 1.0 | -49.7 | -13.0 | -36.7 | |
| 7.410 | -15.2 | V | 3.0 | 34.9 | 1.0 | -49.1 | -13.0 | -36.1 | |
| 3.705 | -18.1 | H | 3.0 | 35.4 | 1.0 | -52.5 | -13.0 | -39.5 | |
| 5.557 | -15.5 | H | 3.0 | 34.7 | 1.0 | -49.3 | -13.0 | -36.3 | |
| 7.410 | -13.1 | H | 3.0 | 34.9 | 1.0 | -47.0 | -13.0 | -34.0 | |
| Mid Ch, 1880MHz | | | | | | | | | |
| 3.760 | -17.5 | V | 3.0 | 35.3 | 1.0 | -51.8 | -13.0 | -38.8 | |
| 5.640 | -16.4 | V | 3.0 | 34.7 | 1.0 | -50.1 | -13.0 | -37.1 | |
| 7.520 | -14.2 | V | 3.0 | 34.9 | 1.0 | -48.1 | -13.0 | -35.1 | |
| 3.760 | -17.0 | H | 3.0 | 35.3 | 1.0 | -51.3 | -13.0 | -38.3 | |
| 5.640 | -15.2 | H | 3.0 | 34.7 | 1.0 | -48.9 | -13.0 | -35.9 | |
| 7.520 | -12.6 | H | 3.0 | 34.9 | 1.0 | -46.5 | -13.0 | -33.5 | |
| High Ch, 1907.6MHz | | | | | | | | | |
| 3.815 | -16.6 | V | 3.0 | 35.3 | 1.0 | -50.9 | -13.0 | -37.9 | |
| 5.723 | -15.5 | V | 3.0 | 34.7 | 1.0 | -49.2 | -13.0 | -36.2 | |
| 7.630 | -13.8 | V | 3.0 | 34.9 | 1.0 | -47.7 | -13.0 | -34.7 | |
| 3.815 | -18.0 | H | 3.0 | 35.3 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 5.723 | -15.0 | H | 3.0 | 34.7 | 1.0 | -48.7 | -13.0 | -35.7 | |
| 7.630 | -12.6 | H | 3.0 | 34.9 | 1.0 | -46.5 | -13.0 | -33.5 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.




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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** REL99_B2

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T34 8449B | Filter 1 | Part 24 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 1852.4MHz | | | | | | | | | |
| Band 2 | 3.705 | -22.4 | V | 3.0 | 35.4 | 1.0 | -56.8 | -13.0 | -43.8 | |
| | 5.557 | -20.1 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| REL99 | 7.410 | -18.4 | V | 3.0 | 34.9 | 1.0 | -52.4 | -13.0 | -39.4 | |
| | 3.705 | -22.5 | H | 3.0 | 35.4 | 1.0 | -56.9 | -13.0 | -43.9 | |
| | 5.557 | -19.6 | H | 3.0 | 34.7 | 1.0 | -53.3 | -13.0 | -40.3 | |
| | 7.410 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| | Mid Ch, 1880MHz | | | | | | | | | |
| | 3.760 | -22.2 | V | 3.0 | 35.3 | 1.0 | -56.5 | -13.0 | -43.5 | |
| | 5.640 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| | 7.520 | -18.6 | V | 3.0 | 34.9 | 1.0 | -52.5 | -13.0 | -39.5 | |
| | 3.760 | -22.5 | H | 3.0 | 35.3 | 1.0 | -56.8 | -13.0 | -43.8 | |
| | 5.640 | -19.3 | H | 3.0 | 34.7 | 1.0 | -53.0 | -13.0 | -40.0 | |
| | 7.520 | -17.3 | H | 3.0 | 34.9 | 1.0 | -51.2 | -13.0 | -38.2 | |
| | High Ch, 1907.6MHz | | | | | | | | | |
| | 3.815 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| | 5.723 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| | 7.630 | -18.2 | V | 3.0 | 34.9 | 1.0 | -52.1 | -13.0 | -39.1 | |
| | 3.815 | -22.4 | H | 3.0 | 35.3 | 1.0 | -56.6 | -13.0 | -43.6 | |
| | 5.723 | -19.2 | H | 3.0 | 34.7 | 1.0 | -52.9 | -13.0 | -39.9 | |
| | 7.630 | -17.0 | H | 3.0 | 34.9 | 1.0 | -50.9 | -13.0 | -37.9 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** HSDPA_B5

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

Band

Band 5

HSDPA

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 826.4MHz | | | | | | | | | |
| 1.653 | -23.7 | V | 3.0 | 37.4 | 1.0 | -60.1 | -13.0 | -47.1 | |
| 2.479 | -18.4 | V | 3.0 | 36.4 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 3.306 | -19.1 | V | 3.0 | 35.8 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 1.653 | -23.4 | H | 3.0 | 37.4 | 1.0 | -59.8 | -13.0 | -46.8 | |
| 2.479 | -20.8 | H | 3.0 | 36.4 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 3.306 | -19.4 | H | 3.0 | 35.8 | 1.0 | -54.2 | -13.0 | -41.2 | |
| Mid Ch, 836.6MHz | | | | | | | | | |
| 1.673 | -23.8 | V | 3.0 | 37.3 | 1.0 | -60.2 | -13.0 | -47.2 | |
| 2.510 | -19.0 | V | 3.0 | 36.4 | 1.0 | -54.4 | -13.0 | -41.4 | |
| 3.346 | -18.0 | V | 3.0 | 35.8 | 1.0 | -52.8 | -13.0 | -39.8 | |
| 1.673 | -23.9 | H | 3.0 | 37.3 | 1.0 | -60.3 | -13.0 | -47.3 | |
| 2.510 | -20.1 | H | 3.0 | 36.4 | 1.0 | -55.5 | -13.0 | -42.5 | |
| 3.346 | -18.2 | H | 3.0 | 35.8 | 1.0 | -53.0 | -13.0 | -40.0 | |
| High Ch, 846.6MHz | | | | | | | | | |
| 1.693 | -22.6 | V | 3.0 | 37.3 | 1.0 | -59.0 | -13.0 | -46.0 | |
| 2.540 | -19.8 | V | 3.0 | 36.3 | 1.0 | -55.2 | -13.0 | -42.2 | |
| 3.386 | -18.6 | V | 3.0 | 35.7 | 1.0 | -53.4 | -13.0 | -40.4 | |
| 1.693 | -23.1 | H | 3.0 | 37.3 | 1.0 | -59.4 | -13.0 | -46.4 | |
| 2.540 | -20.5 | H | 3.0 | 36.3 | 1.0 | -55.8 | -13.0 | -42.8 | |
| 3.386 | -18.5 | H | 3.0 | 35.7 | 1.0 | -53.2 | -13.0 | -40.2 | |
| | | | | | | | | | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.




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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** REL99_B5

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 826.4MHz | | | | | | | | | |
| Band 5 | 1.653 | -23.6 | V | 3.0 | 37.4 | 1.0 | -60.0 | -13.0 | -47.0 | |
| | 2.479 | -18.7 | V | 3.0 | 36.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| REL99 | 3.306 | -19.1 | V | 3.0 | 35.8 | 1.0 | -53.9 | -13.0 | -40.9 | |
| | 1.653 | -24.6 | H | 3.0 | 37.4 | 1.0 | -60.9 | -13.0 | -47.9 | |
| | 2.479 | -20.3 | H | 3.0 | 36.4 | 1.0 | -55.7 | -13.0 | -42.7 | |
| | 3.306 | -19.4 | H | 3.0 | 35.8 | 1.0 | -54.2 | -13.0 | -41.2 | |
| | Mid Ch, 836.6MHz | | | | | | | | | |
| | 1.673 | -23.8 | V | 3.0 | 37.3 | 1.0 | -60.1 | -13.0 | -47.1 | |
| | 2.510 | -18.7 | V | 3.0 | 36.4 | 1.0 | -54.1 | -13.0 | -41.1 | |
| | 3.346 | -17.7 | V | 3.0 | 35.8 | 1.0 | -52.4 | -13.0 | -39.4 | |
| | 1.673 | -23.6 | H | 3.0 | 37.3 | 1.0 | -60.0 | -13.0 | -47.0 | |
| | 2.510 | -20.1 | H | 3.0 | 36.4 | 1.0 | -55.5 | -13.0 | -42.5 | |
| | 3.346 | -19.0 | H | 3.0 | 35.8 | 1.0 | -53.8 | -13.0 | -40.8 | |
| | High Ch, 846.6MHz | | | | | | | | | |
| | 1.693 | -23.1 | V | 3.0 | 37.3 | 1.0 | -59.4 | -13.0 | -46.4 | |
| | 2.540 | -18.9 | V | 3.0 | 36.3 | 1.0 | -54.2 | -13.0 | -41.2 | |
| | 3.386 | -18.1 | V | 3.0 | 35.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| | 1.693 | -22.9 | H | 3.0 | 37.3 | 1.0 | -59.2 | -13.0 | -46.2 | |
| | 2.540 | -21.2 | H | 3.0 | 36.3 | 1.0 | -56.5 | -13.0 | -43.5 | |
| | 3.386 | -18.9 | H | 3.0 | 35.7 | 1.0 | -53.6 | -13.0 | -40.6 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**GSM**

**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** EGPRS1900

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T34 8449B | Filter 1 | Part 24 |

Band

GSM 1900

EGPRS

| f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| Low Ch, 1850.2MHz | | | | | | | | | |
| 3.700 | -22.5 | V | 3.0 | 35.4 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 5.551 | -20.1 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7.401 | -18.4 | V | 3.0 | 34.9 | 1.0 | -52.3 | -13.0 | -39.3 | |
| 3.700 | -22.2 | H | 3.0 | 35.4 | 1.0 | -56.6 | -13.0 | -43.6 | |
| 5.551 | -17.8 | H | 3.0 | 34.7 | 1.0 | -51.5 | -13.0 | -38.5 | |
| 7.401 | -16.1 | H | 3.0 | 34.9 | 1.0 | -50.1 | -13.0 | -37.1 | |
| Mid Ch, 1880.0MHz | | | | | | | | | |
| 3.760 | -22.1 | V | 3.0 | 35.3 | 1.0 | -56.4 | -13.0 | -43.4 | |
| 5.640 | -20.1 | V | 3.0 | 34.7 | 1.0 | -53.8 | -13.0 | -40.8 | |
| 7.520 | -18.2 | V | 3.0 | 34.9 | 1.0 | -52.2 | -13.0 | -39.2 | |
| 3.760 | -22.6 | H | 3.0 | 35.3 | 1.0 | -56.9 | -13.0 | -43.9 | |
| 5.640 | -19.5 | H | 3.0 | 34.7 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 7.520 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| High Ch, 1909.8MHz | | | | | | | | | |
| 3.820 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.2 | -13.0 | -43.2 | |
| 5.729 | -20.0 | V | 3.0 | 34.7 | 1.0 | -53.7 | -13.0 | -40.7 | |
| 7.639 | -17.9 | V | 3.0 | 35.0 | 1.0 | -51.8 | -13.0 | -38.8 | |
| 3.820 | -22.2 | H | 3.0 | 35.3 | 1.0 | -56.5 | -13.0 | -43.5 | |
| 5.729 | -19.5 | H | 3.0 | 34.7 | 1.0 | -53.2 | -13.0 | -40.2 | |
| 7.639 | -17.0 | H | 3.0 | 35.0 | 1.0 | -51.0 | -13.0 | -38.0 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.




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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 3/5/2015
**Test Engineer:** O. Stoelting
**Configuration:** x-pos EUT/AC Charger/ HS
**Mode:** GPRS1900

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 5m Chamber B | T34 8449B | Filter 1 | Part 24 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 1850.2MHz | | | | | | | | | |
| GSM 1900 | 3.700 | -22.6 | V | 3.0 | 35.4 | 1.0 | -57.0 | -13.0 | -44.0 | |
| | 5.551 | -19.9 | V | 3.0 | 34.7 | 1.0 | -53.6 | -13.0 | -40.6 | |
| | 7.401 | -18.4 | V | 3.0 | 34.9 | 1.0 | -52.3 | -13.0 | -39.3 | |
| GPRS | 3.700 | -22.7 | H | 3.0 | 35.4 | 1.0 | -57.1 | -13.0 | -44.1 | |
| | 5.551 | -19.1 | H | 3.0 | 34.7 | 1.0 | -52.8 | -13.0 | -39.8 | |
| | 7.401 | -17.6 | H | 3.0 | 34.9 | 1.0 | -51.5 | -13.0 | -38.5 | |
| | Mid Ch, 1880.0MHz | | | | | | | | | |
| | 3.760 | -22.4 | V | 3.0 | 35.3 | 1.0 | -56.8 | -13.0 | -43.8 | |
| | 5.640 | -19.8 | V | 3.0 | 34.7 | 1.0 | -53.5 | -13.0 | -40.5 | |
| | 7.520 | -18.5 | V | 3.0 | 34.9 | 1.0 | -52.5 | -13.0 | -39.5 | |
| | 3.760 | -22.5 | H | 3.0 | 35.3 | 1.0 | -56.8 | -13.0 | -43.8 | |
| | 5.640 | -17.9 | H | 3.0 | 34.7 | 1.0 | -51.6 | -13.0 | -38.6 | |
| | 7.520 | -17.5 | H | 3.0 | 34.9 | 1.0 | -51.4 | -13.0 | -38.4 | |
| | High Ch, 1909.8MHz | | | | | | | | | |
| | 3.820 | -22.0 | V | 3.0 | 35.3 | 1.0 | -56.3 | -13.0 | -43.3 | |
| | 5.729 | -9.6 | V | 3.0 | 34.7 | 1.0 | -43.3 | -13.0 | -30.3 | |
| | 7.639 | -18.0 | V | 3.0 | 35.0 | 1.0 | -51.9 | -13.0 | -38.9 | |
| | 3.820 | -22.4 | H | 3.0 | 35.3 | 1.0 | -56.7 | -13.0 | -43.7 | |
| | 5.729 | -10.8 | H | 3.0 | 34.7 | 1.0 | -44.5 | -13.0 | -31.5 | |
| | 7.639 | -17.1 | H | 3.0 | 35.0 | 1.0 | -51.1 | -13.0 | -38.1 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** EGPRS850 Harm

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Not |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 824.2MHz | | | | | | | | | |
| GSM 850 | 1.648 | -25.5 | V | 3.0 | 37.4 | 1.0 | -61.9 | -13.0 | -48.9 | |
| | 2.473 | -20.0 | V | 3.0 | 36.4 | 1.0 | -55.4 | -13.0 | -42.4 | |
| | 3.297 | -20.9 | V | 3.0 | 35.8 | 1.0 | -55.7 | -13.0 | -42.7 | |
| EGPRS | 1.648 | -26.2 | H | 3.0 | 37.4 | 1.0 | -62.6 | -13.0 | -49.6 | |
| | 2.473 | -21.4 | H | 3.0 | 36.4 | 1.0 | -56.8 | -13.0 | -43.8 | |
| | 3.297 | -20.8 | H | 3.0 | 35.8 | 1.0 | -55.6 | -13.0 | -42.6 | |
| | Mid Ch, 836.6MHz | | | | | | | | | |
| | 1.673 | -25.4 | V | 3.0 | 37.3 | 1.0 | -61.7 | -13.0 | -48.7 | |
| | 2.510 | -21.6 | V | 3.0 | 36.4 | 1.0 | -57.0 | -13.0 | -44.0 | |
| | 3.346 | -20.7 | V | 3.0 | 35.8 | 1.0 | -55.5 | -13.0 | -42.5 | |
| | 1.673 | -25.2 | H | 3.0 | 37.3 | 1.0 | -61.6 | -13.0 | -48.6 | |
| | 2.510 | -22.5 | H | 3.0 | 36.4 | 1.0 | -57.9 | -13.0 | -44.9 | |
| | 3.346 | -21.5 | H | 3.0 | 35.8 | 1.0 | -56.2 | -13.0 | -43.2 | |
| | High Ch, 848.8MHz | | | | | | | | | |
| | 1.698 | -24.8 | V | 3.0 | 37.3 | 1.0 | -61.1 | -13.0 | -48.1 | |
| | 2.547 | -21.6 | V | 3.0 | 36.3 | 1.0 | -56.9 | -13.0 | -43.9 | |
| | 3.395 | -20.2 | V | 3.0 | 35.7 | 1.0 | -54.9 | -13.0 | -41.9 | |
| | 1.698 | -25.0 | H | 3.0 | 37.3 | 1.0 | -61.3 | -13.0 | -48.3 | |
| | 2.547 | -22.9 | H | 3.0 | 36.3 | 1.0 | -58.3 | -13.0 | -45.3 | |
| | 3.395 | -20.2 | H | 3.0 | 35.7 | 1.0 | -54.9 | -13.0 | -41.9 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.


UL VERIFICATION SERVICES INC. FORM NO: CCSUP4701I
47173 BENICIA STREET, FREMONT, CA 94538, USA TEL: (510) 771-1000 FAX: (510) 661-0888
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**UL Verification Services, Inc.**
**Above 1GHz High Frequency Substitution Measurement**

**Company:** Sony
**Project #:** 15U20030
**Date:** 03/06/15
**Test Engineer:** Jude Semana
**Configuration:** EUT + Charger
**Mode:** GPRS 850 HARM

| Chamber | Pre-amplifer | Filter | Limit |
|---|---|---|---|
| 3m Chamber | T34 8449B | Filter 1 | Part 22 |

| Band | f GHz | SG reading (dBm) | Ant. Pol. (H/V) | Distance (m) | Preamp (dB) | Filter (dB) | EIRP (dBm) | Limit (dBm) | Delta (dB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | Low Ch, 824.2MHz | | | | | | | | | |
| GSM 850 | 1.648 | -25.8 | V | 3.0 | 37.4 | 1.0 | -62.2 | -13.0 | -49.2 | |
| | 2.473 | -19.5 | V | 3.0 | 36.4 | 1.0 | -54.9 | -13.0 | -41.9 | |
| | 3.297 | -20.3 | V | 3.0 | 35.8 | 1.0 | -55.1 | -13.0 | -42.1 | |
| | 1.648 | -25.9 | H | 3.0 | 37.4 | 1.0 | -62.3 | -13.0 | -49.3 | |
| GPRS | 2.473 | -22.1 | H | 3.0 | 36.4 | 1.0 | -57.5 | -13.0 | -44.5 | |
| | 3.297 | -20.6 | H | 3.0 | 35.8 | 1.0 | -55.4 | -13.0 | -42.4 | |
| | Mid Ch, 836.6MHz | | | | | | | | | |
| | 1.673 | -25.8 | V | 3.0 | 37.3 | 1.0 | -62.2 | -13.0 | -49.2 | |
| | 2.510 | -21.1 | V | 3.0 | 36.4 | 1.0 | -56.4 | -13.0 | -43.4 | |
| | 3.346 | -20.2 | V | 3.0 | 35.8 | 1.0 | -55.0 | -13.0 | -42.0 | |
| | 1.673 | -25.5 | H | 3.0 | 37.3 | 1.0 | -61.9 | -13.0 | -48.9 | |
| | 2.510 | -22.8 | H | 3.0 | 36.4 | 1.0 | -58.1 | -13.0 | -45.1 | |
| | 3.346 | -21.3 | H | 3.0 | 35.8 | 1.0 | -56.1 | -13.0 | -43.1 | |
| | High Ch, 848.8MHz | | | | | | | | | |
| | 1.698 | -25.0 | V | 3.0 | 37.3 | 1.0 | -61.3 | -13.0 | -48.3 | |
| | 2.547 | -20.7 | V | 3.0 | 36.3 | 1.0 | -56.0 | -13.0 | -43.0 | |
| | 3.395 | -20.3 | V | 3.0 | 35.7 | 1.0 | -55.1 | -13.0 | -42.1 | |
| | 1.698 | -24.2 | H | 3.0 | 37.3 | 1.0 | -60.5 | -13.0 | -47.5 | |
| | 2.547 | -22.5 | H | 3.0 | 36.3 | 1.0 | -57.8 | -13.0 | -44.8 | |
| | 3.395 | -20.5 | H | 3.0 | 35.7 | 1.0 | -55.2 | -13.0 | -42.2 | |

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.



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