5.8 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

Test overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signalsoperating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas.Measurements on signals operating above 1GHz are performed using vertically and horizontally polarizedhorn antennas. All measurements are performed as peak measurements while the EUT isoperating at maximum power and at the appropriate frequencies.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

Test procedure

1. The testing FCC KDB 971168 D01 Section 5.8 and ANSI C63.26-2015-Section 5.5.
2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5.No. of sweep points > 2 x span/RBW
6. Detector = Peak
7. Trace mode = max hold
8. The trace was allowed to stabilize
9. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP/ERP was calculated with the correction factor,

ERP/EIRP = P.SG + GT – LC

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, t ypically dBW or dBm);

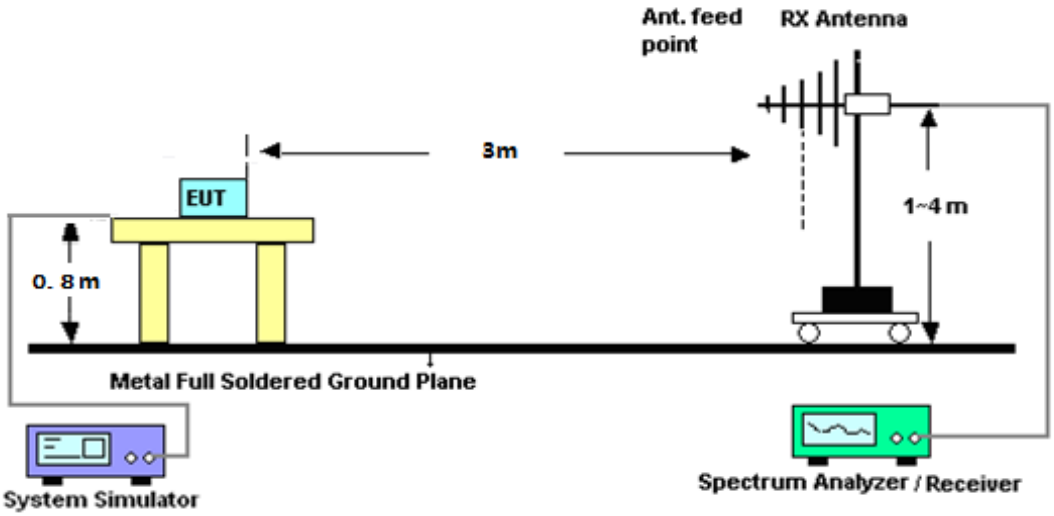
P.SG = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

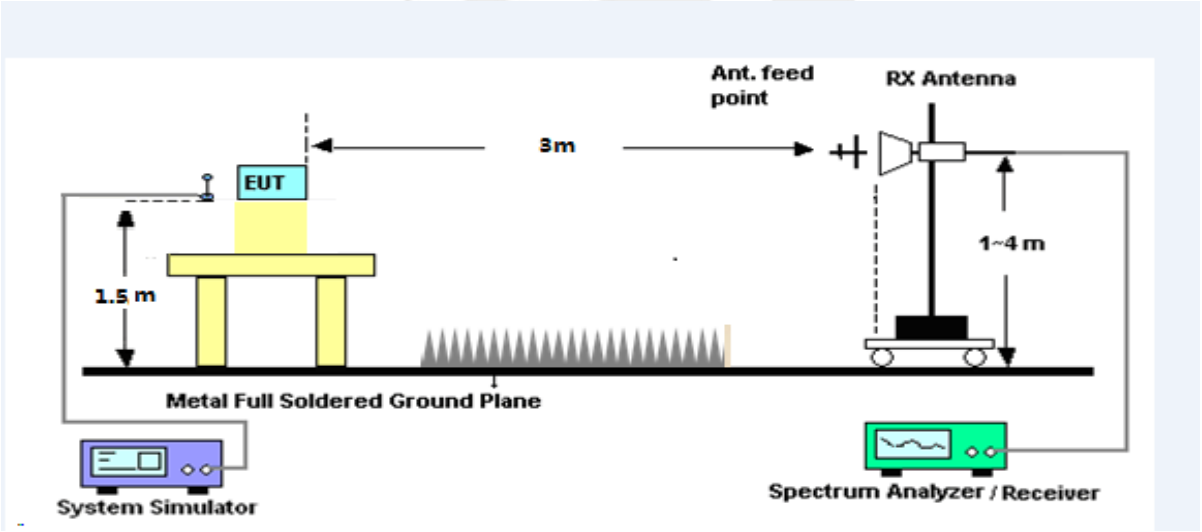
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



APPENDIX A.TESTRESULT
A1.CONDUCTED OUTPUT POWER
GSM 850:

GSM 850		
Mode	Frequency (MHz)	AVG Power(dBm)
GSM (GMSK,1-Slot)	824.2	32.86
	836.6	32.64
	848.8	32.51
GPRS (GMSK,1-Slot)	824.2	29.40
	836.6	29.22
	848.8	28.92
GPRS (GMSK,2-Slot)	824.2	28.95
	836.6	28.76
	848.8	28.46
GPRS (GMSK,3-Slot)	824.2	28.52
	836.6	28.27
	848.8	27.99
GPRS (GMSK,4-Slot)	824.2	28.07
	836.6	27.85
	848.8	27.49
EGPRS (8PSK,1-Slot)	824.2	28.75
	836.6	28.69
	848.8	28.53
EGPRS (8PSK,2-Slot)	824.2	28.00
	836.6	27.89
	848.8	27.78
EGPRS (8PSK,3-Slot)	824.2	27.25
	836.6	27.18
	848.8	27.00
EGPRS (8PSK,4-Slot)	824.2	26.48
	836.6	26.44
	848.8	26.23

PCS 1900:

PCS 1900		
Mode	Frequency (MHz)	AVG Power(dBm)
GSM (GMSK,1-Slot)	1850.2	29.68
	1880.0	29.57
	1909.8	29.38
GPRS (GMSK,1-Slot)	1850.2	25.75
	1880.0	25.79
	1909.8	25.68
GPRS (GMSK,2-Slot)	1850.2	25.31
	1880.0	25.29
	1909.8	25.21
GPRS (GMSK,3-Slot)	1850.2	24.88
	1880.0	24.82
	1909.8	24.75
GPRS (GMSK,4-Slot)	1850.2	24.39
	1880.0	24.32
	1909.8	24.33
EGPRS (8PSK,1-Slot)	1850.2	26.14
	1880.0	26.09
	1909.8	26.27
EGPRS (8PSK,2-Slot)	1850.2	25.34
	1880.0	25.32
	1909.8	25.55
EGPRS (8PSK,3-Slot)	1850.2	24.56
	1880.0	24.55
	1909.8	24.75
EGPRS (8PSK,4-Slot)	1850.2	23.78
	1880.0	23.78
	1909.8	24.03

UMTS BAND V

UMTS BAND V		
Mode	Frequency(MHz)	AVG Power
WCDMA 850 RMC	826.4	21.50
	836.6	21.52
	846.6	21.45
HSDPA Subtest 1	826.4	21.61
	836.6	21.46
	846.6	21.39
HSDPA Subtest 2	826.4	21.12
	836.6	21.02
	846.6	20.94
HSDPA Subtest 3	826.4	20.81
	836.6	20.60
	846.6	20.58
HSDPA Subtest 4	826.4	20.34
	836.6	20.14
	846.6	20.20
HSUPA Subtest 1	826.4	21.54
	836.6	21.58
	846.6	21.25
HSUPA Subtest 2	826.4	20.57
	836.6	20.63
	846.6	20.34
HSUPA Subtest 3	826.4	20.38
	836.6	20.16
	846.6	19.87
HSUPA Subtest 4	826.4	19.97
	836.6	19.81
	846.6	19.55
HSUPA Subtest 5	826.4	18.51
	836.6	18.31
	846.6	18.09

UMTS BAND II

UMTS BAND II		
Mode	Frequency(MHz)	AVG Power
WCDMA 1900 RMC	1852.4	23.80
	1880	23.54
	1907.6	23.94
HSDPA Subtest 1	1852.4	21.30
	1880	21.25
	1907.6	21.34
HSDPA Subtest 2	1852.4	20.83
	1880	20.84
	1907.6	20.84
HSDPA Subtest 3	1852.4	20.33
	1880	20.38
	1907.6	20.53
HSDPA Subtest 4	1852.4	19.99
	1880	19.90
	1907.6	20.08
HSUPA Subtest 1	1852.4	21.27
	1880	21.28
	1907.6	21.32
HSUPA Subtest 2	1852.4	20.32
	1880	20.29
	1907.6	20.42
HSUPA Subtest 3	1852.4	20.23
	1880	19.83
	1907.6	19.94
HSUPA Subtest 4	1852.4	19.92
	1880	19.33
	1907.6	19.46
HSUPA Subtest 5	1852.4	18.43
	1880	17.91
	1907.6	17.99

UMTS BAND IV

UMTS BAND IV		
Mode	Frequency(MHz)	AVG Power
WCDMA 1700 RMC	1712.6	21.66
	1740	21.43
	1752.4	21.28
HSDPA Subtest 1	1712.6	21.63
	1740	21.55
	1752.4	21.47
HSDPA Subtest 2	1712.6	21.18
	1740	21.10
	1752.4	21.06
HSDPA Subtest 3	1712.6	20.88
	1740	20.65
	1752.4	20.64
HSDPA Subtest 4	1712.6	20.50
	1740	20.33
	1752.4	20.17
HSUPA Subtest 1	1712.6	21.63
	1740	21.46
	1752.4	21.50
HSUPA Subtest 2	1712.6	20.79
	1740	20.51
	1752.4	20.59
HSUPA Subtest 3	1712.6	20.71
	1740	20.06
	1752.4	20.15
HSUPA Subtest 4	1712.6	20.36
	1740	19.74
	1752.4	19.84
HSUPA Subtest 5	1712.6	18.91
	1740	18.30
	1752.4	18.38

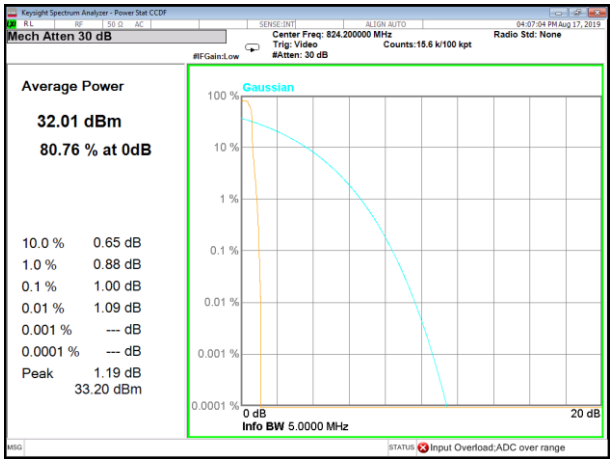
A2. PEAK-TO-AVERAGE RADIO

GSM 850		
Mode	Frequency (MHz)	PAR
GSM 850	824.2	1.00
	836.6	0.77
	848.8	0.11
GPRS 850	824.2	0.09
	836.6	0.09
	848.8	0.09
EGPRS 850	824.2	2.40
	836.6	2.39
	848.8	2.35
PCS 1900		
Mode	Frequency (MHz)	PAR
PCS1900	1850.2	0.12
	1880	0.12
	1909.8	0.12
GPRS1900	1850.2	0.09
	1880	0.09
	1909.8	0.10
EGPRS1900	1850.2	2.51
	1880	2.49
	1909.8	2.31

UMTS Band II		
Mode	Frequency (MHz)	PAR
WCDMA 1900 RMC	1852.4	2.57
	1880	2.98
	1907.6	2.76
HSDPA 1900	1852.4	3.12
	1880	3.38
	1907.6	3.23
HSUPA 1900	1852.4	3.03
	1880	3.27
	1907.6	3.14

UMTS Band V		
Mode	Frequency (MHz)	PAR
WCDMA 850 RMC	826.4	3.30
	836.6	3.04
	846.6	3.11
HSDPA 850	826.4	2.99
	836.6	3.38
	846.6	3.35
HSUPA 850	826.4	3.49
	836.6	3.36
	846.6	3.41

UMTS Band IV		
Mode	Frequency (MHz)	PAR
WCDMA 1700 RMC	1712.6	2.91
	1740	2.89
	1752.4	2.84
HSDPA 1700	1712.6	3.24
	1740	3.20
	1752.4	3.37
HSUPA 1700	1712.6	4.05
	1740	3.33
	1752.4	3.31



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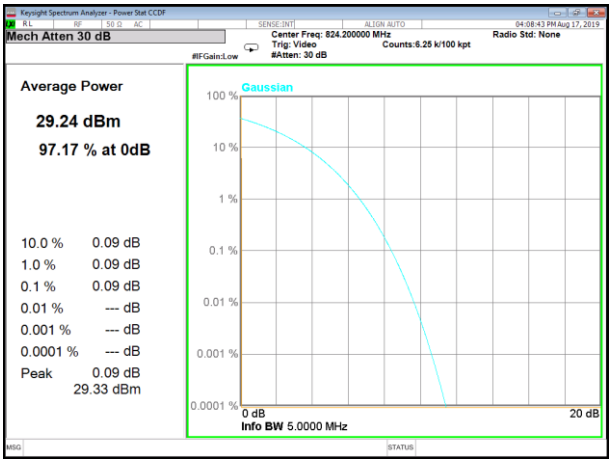

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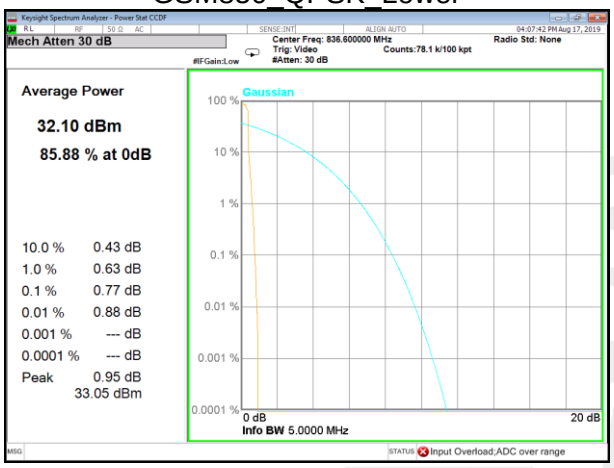

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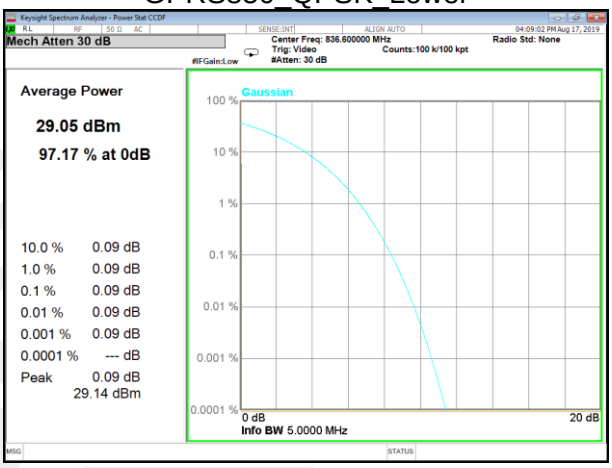

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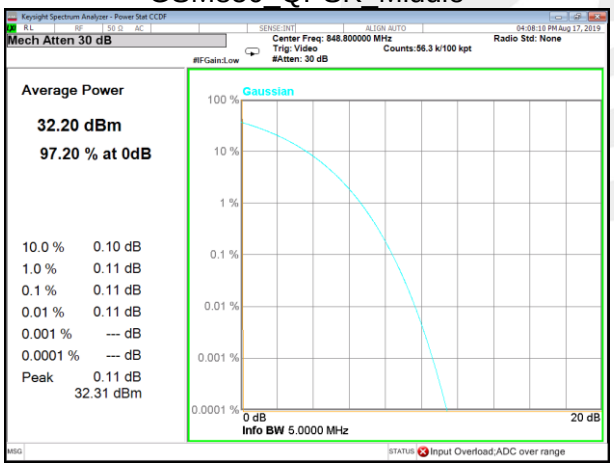

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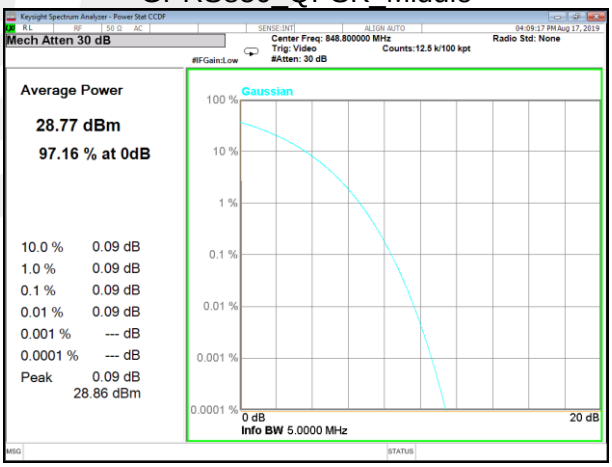

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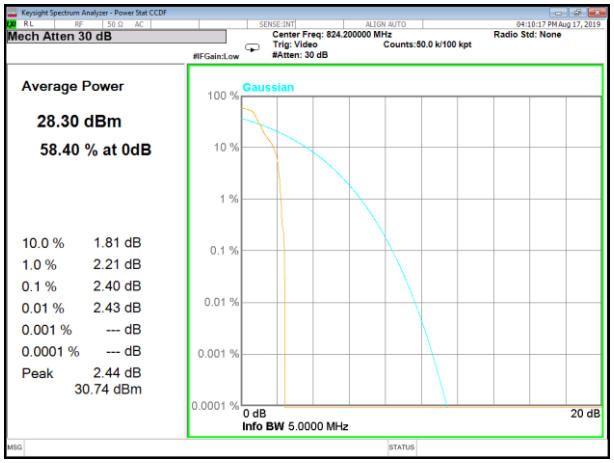

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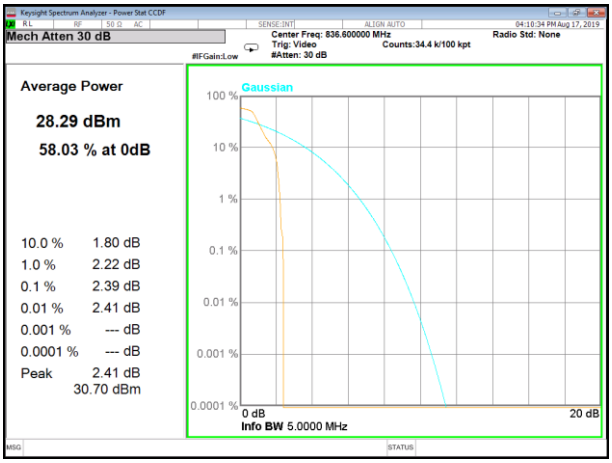

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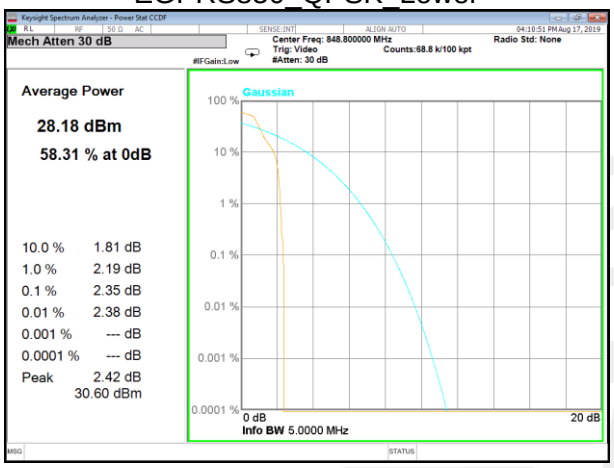

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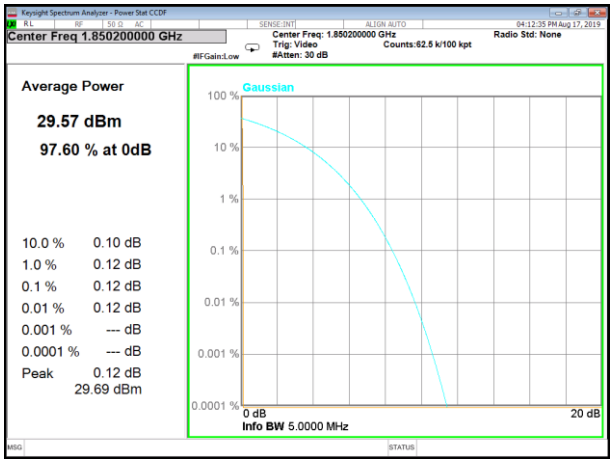

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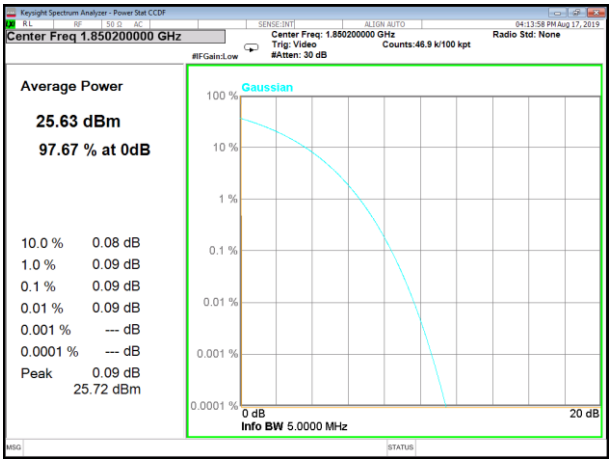

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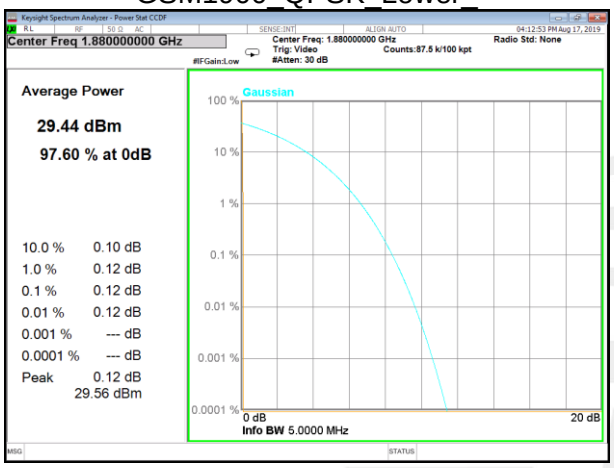

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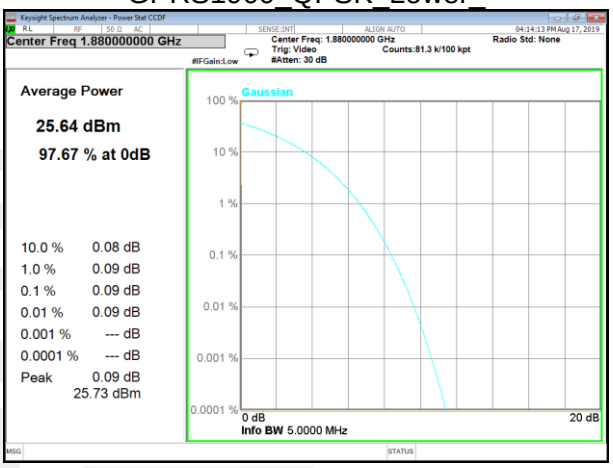

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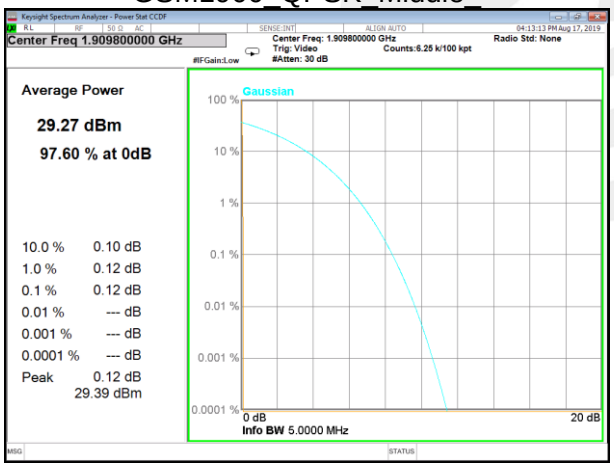

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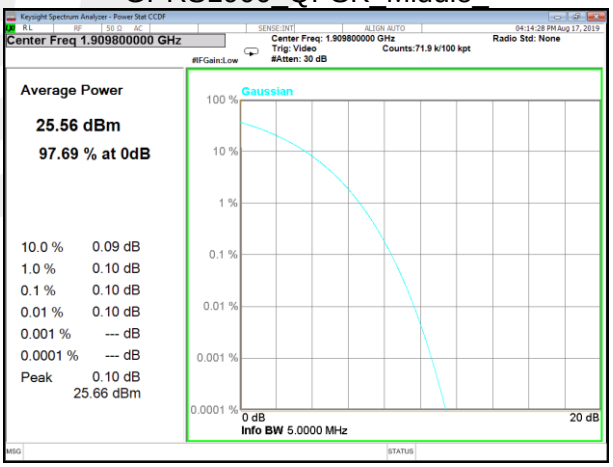

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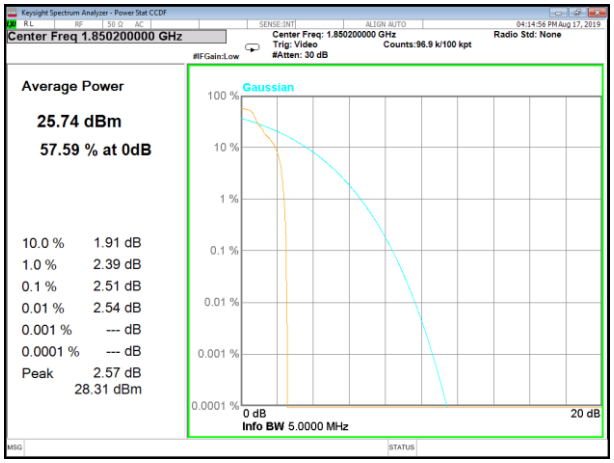

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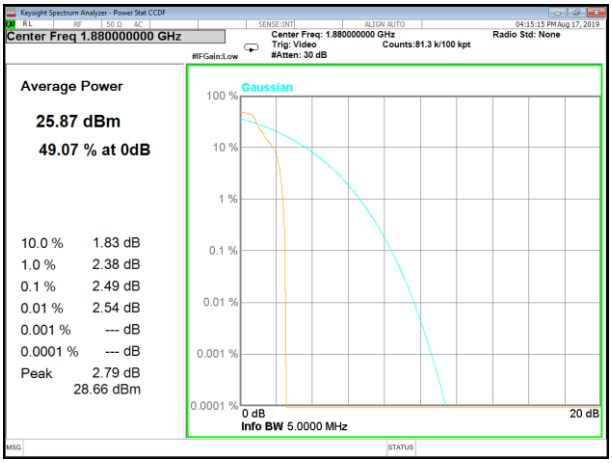

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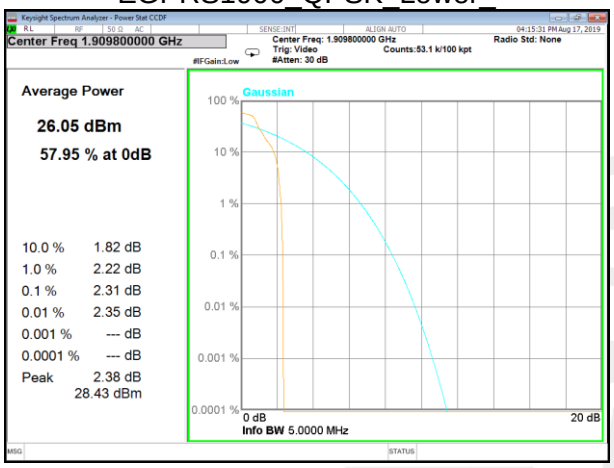

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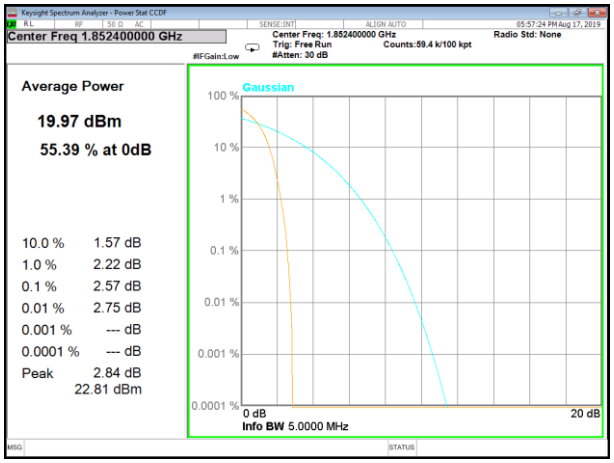

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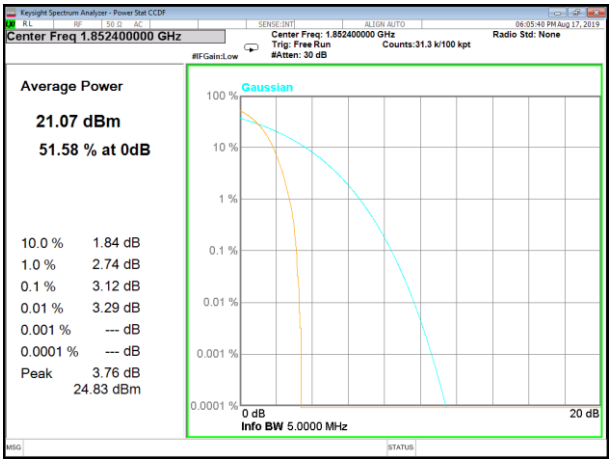

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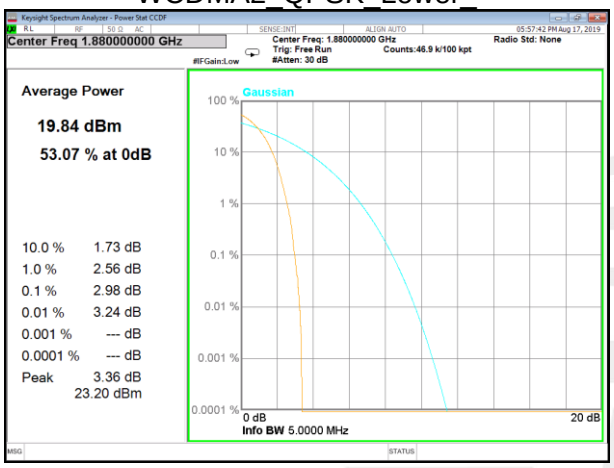

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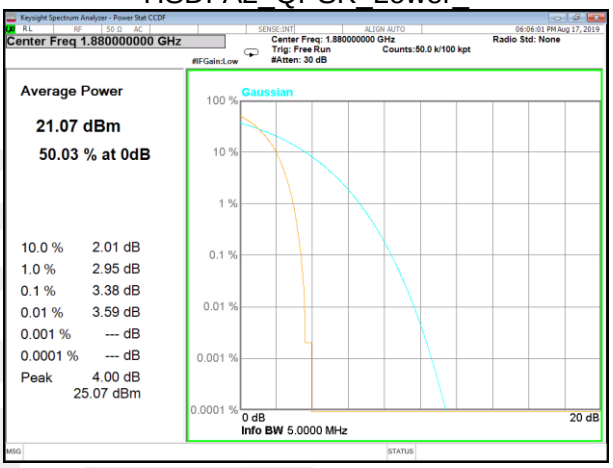

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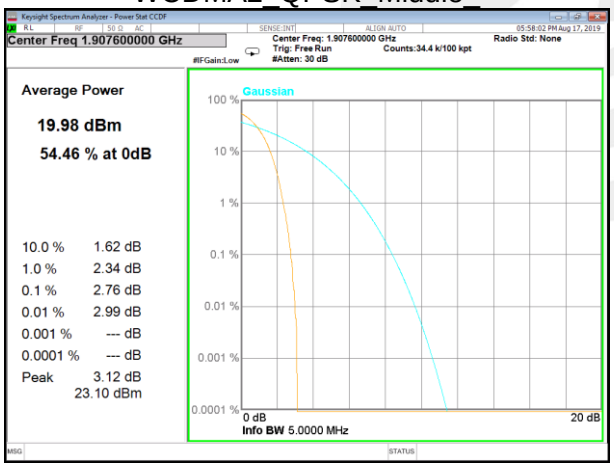

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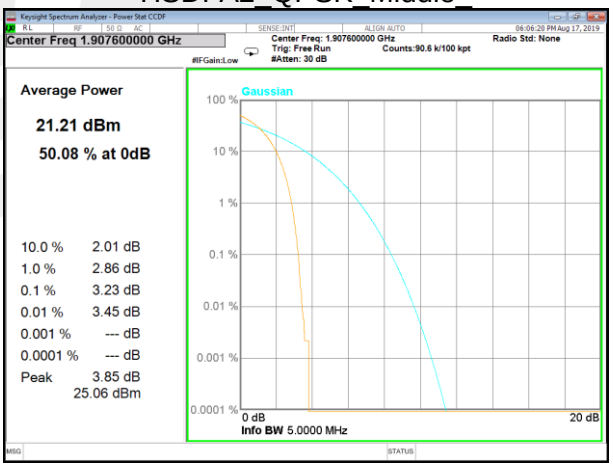

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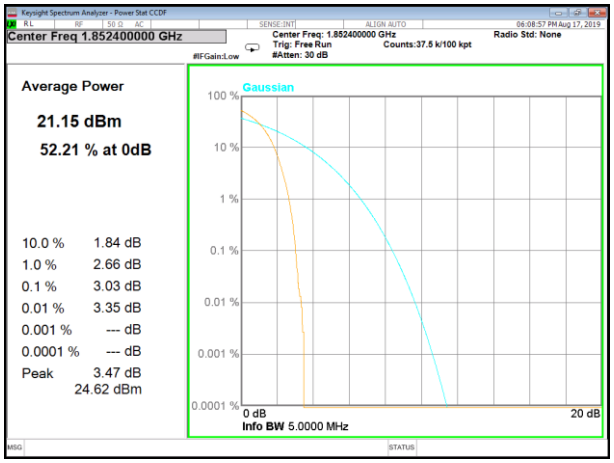

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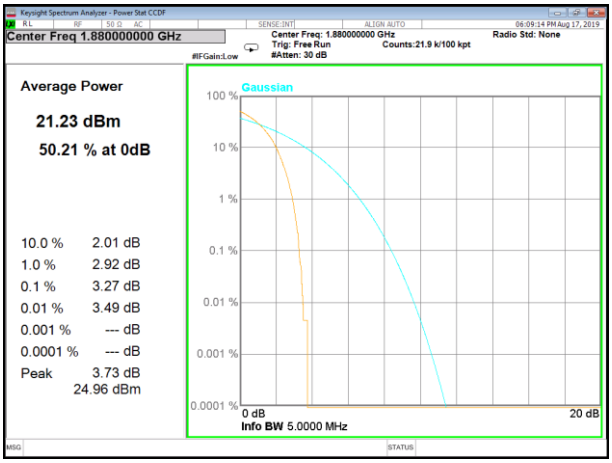

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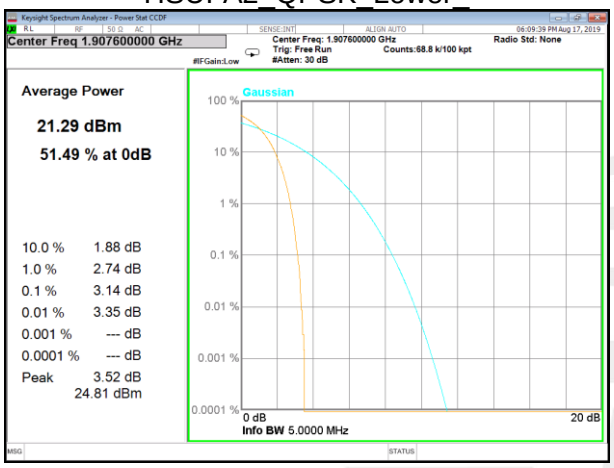

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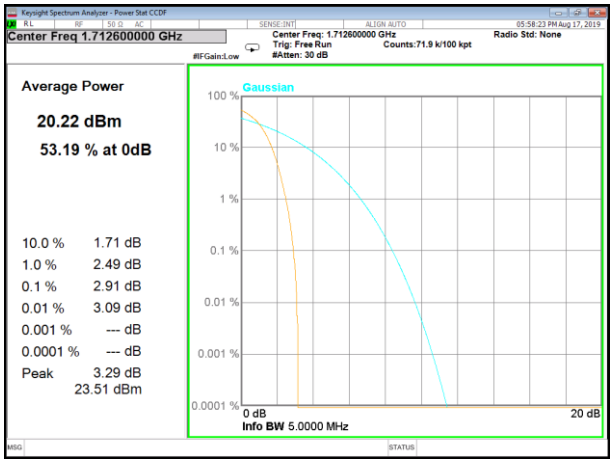

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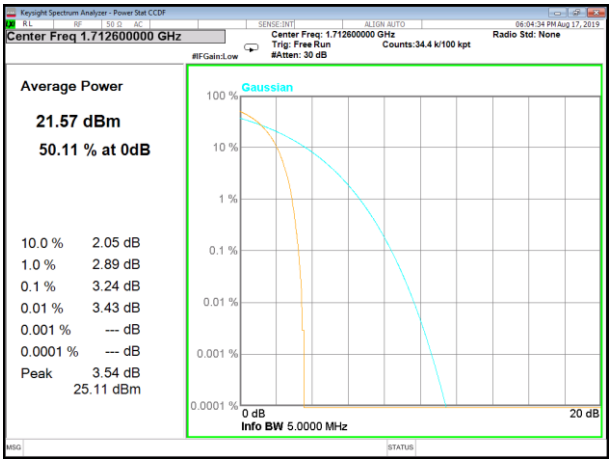

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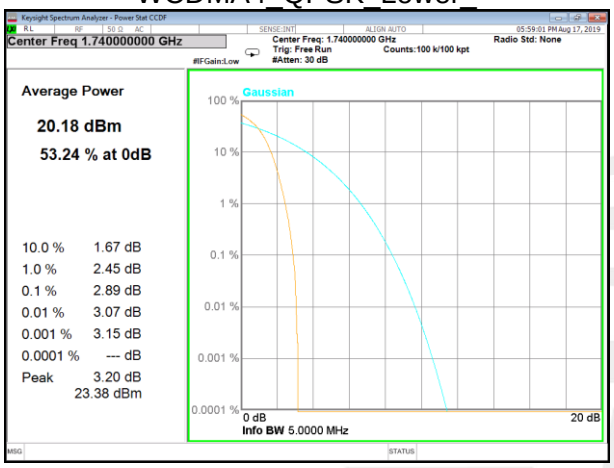

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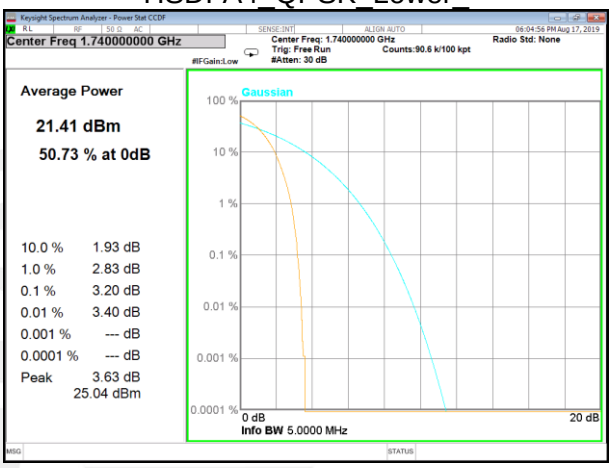

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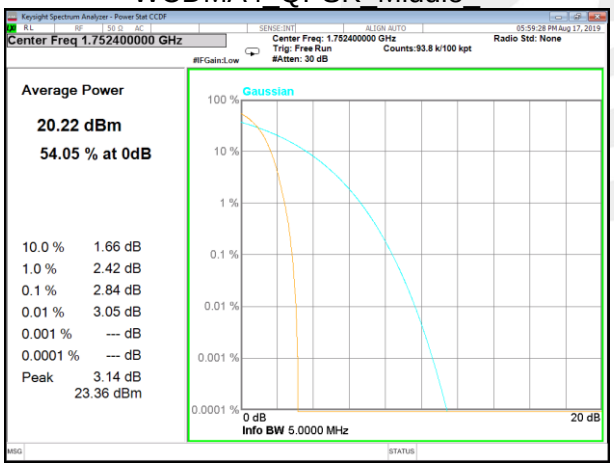

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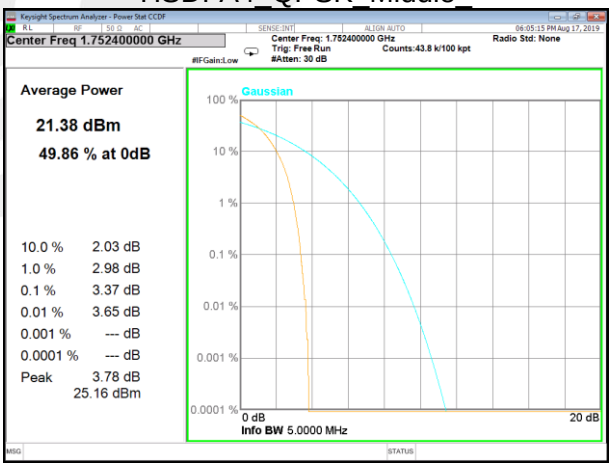

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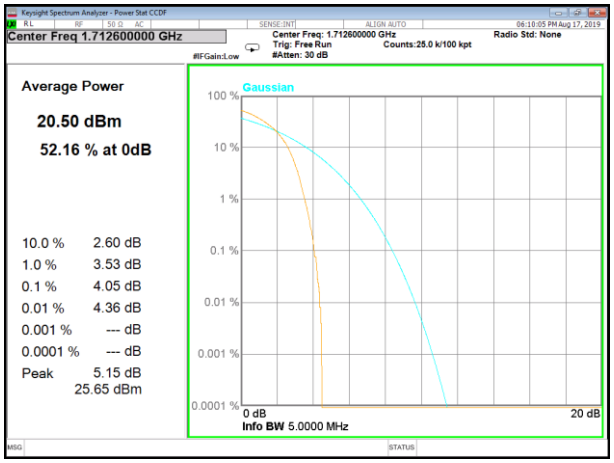

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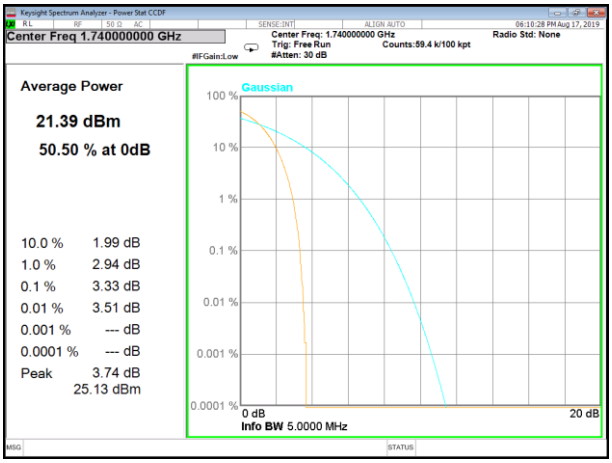

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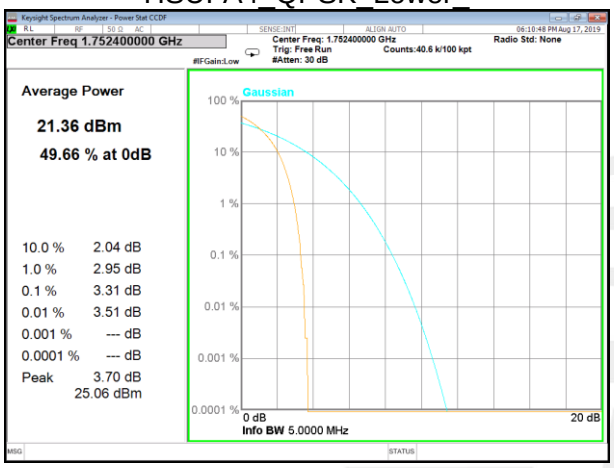

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