

WCDMA-BAND2/BAND5

FCC WCDMA Test Data

1. Modulation Characteristics

Service	Band	Bandwidth	Frequency(MHz)	Data Rate(kHz)	Result
RMC	Band 2	5M	1852.4	12.2	See the photograph
RMC	Band 2	5M	1880.0	12.2	See the photograph
RMC	Band 2	5M	1907.6	12.2	See the photograph
RMC	Band 5	5M	826.4	12.2	See the photograph
RMC	Band 5	5M	836.6	12.2	See the photograph
RMC	Band 5	5M	846.6	12.2	See the photograph

RMC_Band_2_5M_CH9262_ULrate12_2

WCDMA UE TX Measurement - V3.7.20 - Base V 3.7.22

Multi Evaluation

TPC Measurement

PRACH

DPCCH Open Loop Power

Out-of-Sync Handling

UL Frequency: 1852.4000000 MHz Ref. Level: 38.00 dBm Connector: RF1COM Meas. Period: Full Slot

TX Measurement

1st Measured Slot No 0Statistic Count10 / 10

Statistics @ Pre. Slot 0	Current	Average	Maximum	StdDev.
Power [dBm]	22.11	22.11	22.11	0.00
Power Steps [dB]	NCAP	NCAP	NCAP	NCAP
EVM RMS [%]	1.91	1.94	2.05	0.05
EVM Peak [%]	5.81	6.23	7.54	0.57
Magnitude Error RMS [%]	0.90	0.92	0.94	0.01
Magnitude Error Peak [%]	-2.96	3.13	-3.38	0.16
Phase Error RMS [°]	0.96	0.98	1.05	0.03
Phase Error Peak [°]	3.24	3.52	-4.30	0.35
IQ Origin Offset [dB]	-47.35	-46.40	-45.62	0.61
IQ Imbalance [dB]	-47.02	-47.42	-46.64	0.53
CF Error [Hz]	-1.93	0.16	13.42	7.57
Trans. Time Error [Chip]	NCAP	NCAP	NCAP	NCAP
Phase Disc. [°]	NCAP			
OBW [MHz]	NCAP	NCAP	NCAP	

HSDPA

HSPA

CM

Circuit Switched:
Call Established

Packet Switched:
OFF

Power: 31

Sync: 31

RMC_Band_2_5M_CH9400_ULrate12_2

WCDMA UE TX Measurement - V3.7.20 - Base V 3.7.22

Multi Evaluation

TPC Measurement

PRACH

DPCCH Open Loop Power

Out-of-Sync Handling

UL Frequency: 1880.0000000 MHz Ref. Level: 38.00 dBm Connector: RF1COM Meas. Period: Full Slot

TX Measurement

1st Measured Slot No 0 Statistic Count 10 / 10

Statistics @ Pre. Slot 0	Current	Average	Maximum	StdDev.
Power [dBm]	22.11	22.11	22.12	0.00
Power Steps [dB]	NCAP	NCAP	NCAP	NCAP
EVM RMS [%]	1.95	1.94	2.01	0.04
EVM Peak [%]	6.21	6.07	6.87	0.33
Magnitude Error RMS [%]	0.80	0.78	0.80	0.01
Magnitude Error Peak [%]	-2.53	2.36	-2.79	0.18
Phase Error RMS [°]	1.02	1.02	1.06	0.02
Phase Error Peak [°]	-3.55	3.47	-3.93	0.19
IQ Origin Offset [dB]	-46.19	-46.41	-45.71	0.34
IQ Imbalance [dB]	-46.57	-47.43	-46.57	0.43
CF Error [Hz]	8.17	4.56	12.83	5.19
Trans. Time Error [Chip]	NCAP	NCAP	NCAP	NCAP
Phase Disc. [°]	NCAP			
OBW [MHz]	NCAP	NCAP	NCAP	

HSDPA

HSUPA

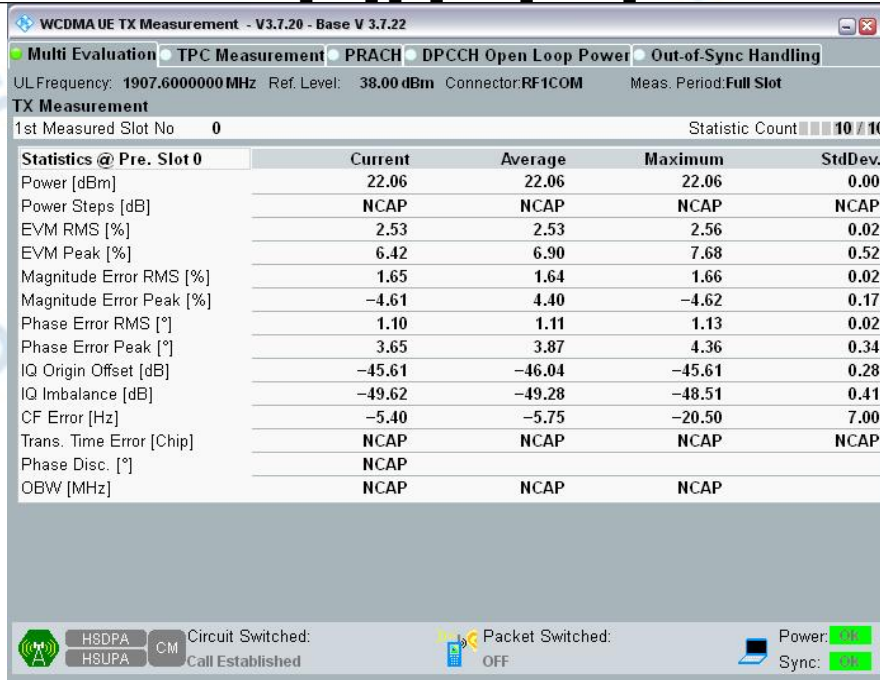
CM

Circuit Switched:
Call Established

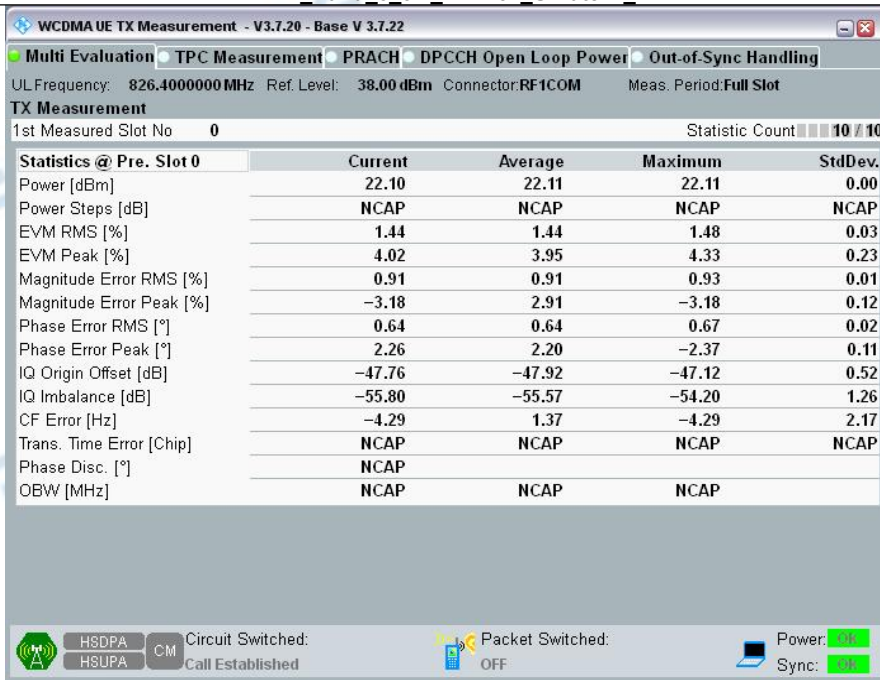
Packet Switched:
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Power: 31
Sync: 31

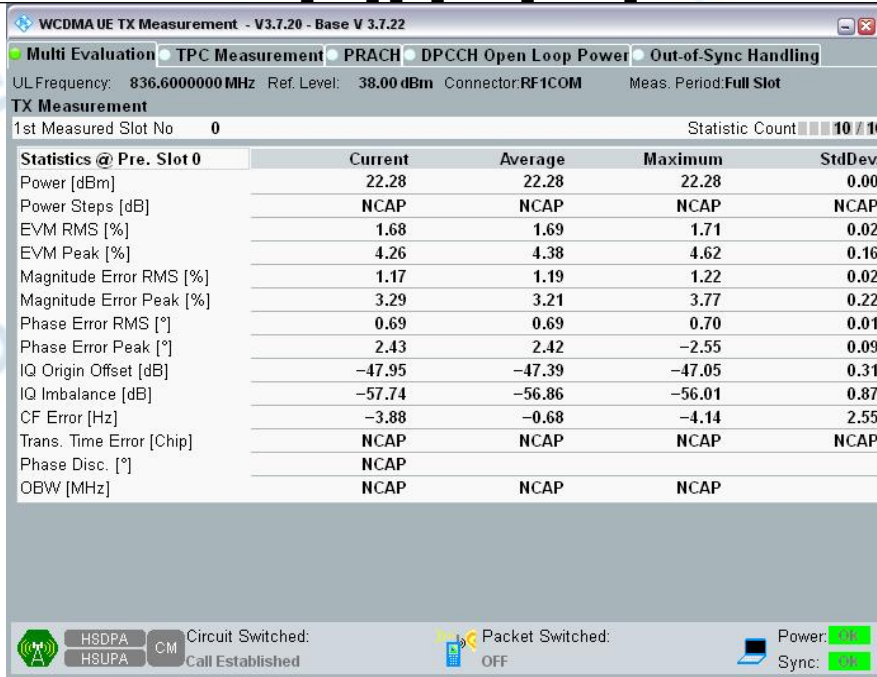
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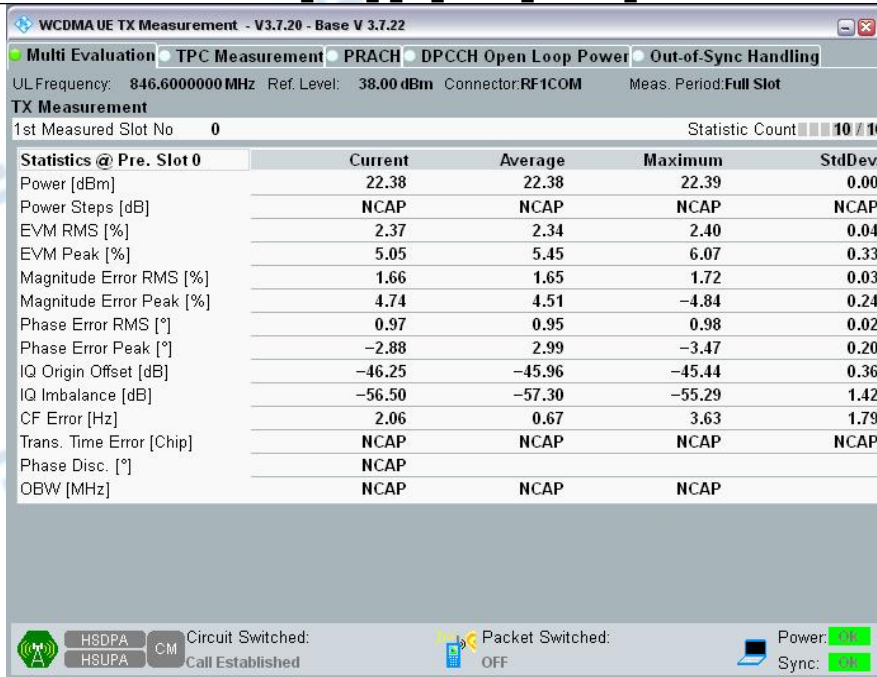
RMC_Band_5_5M_CH4132_ULrate12_2



RMC_Band_5_5M_CH4183_ULrate12_2



RMC_Band_5_5M_CH4233_ULrate12_2



2. Conducted Output Power&&EIRP/ERP

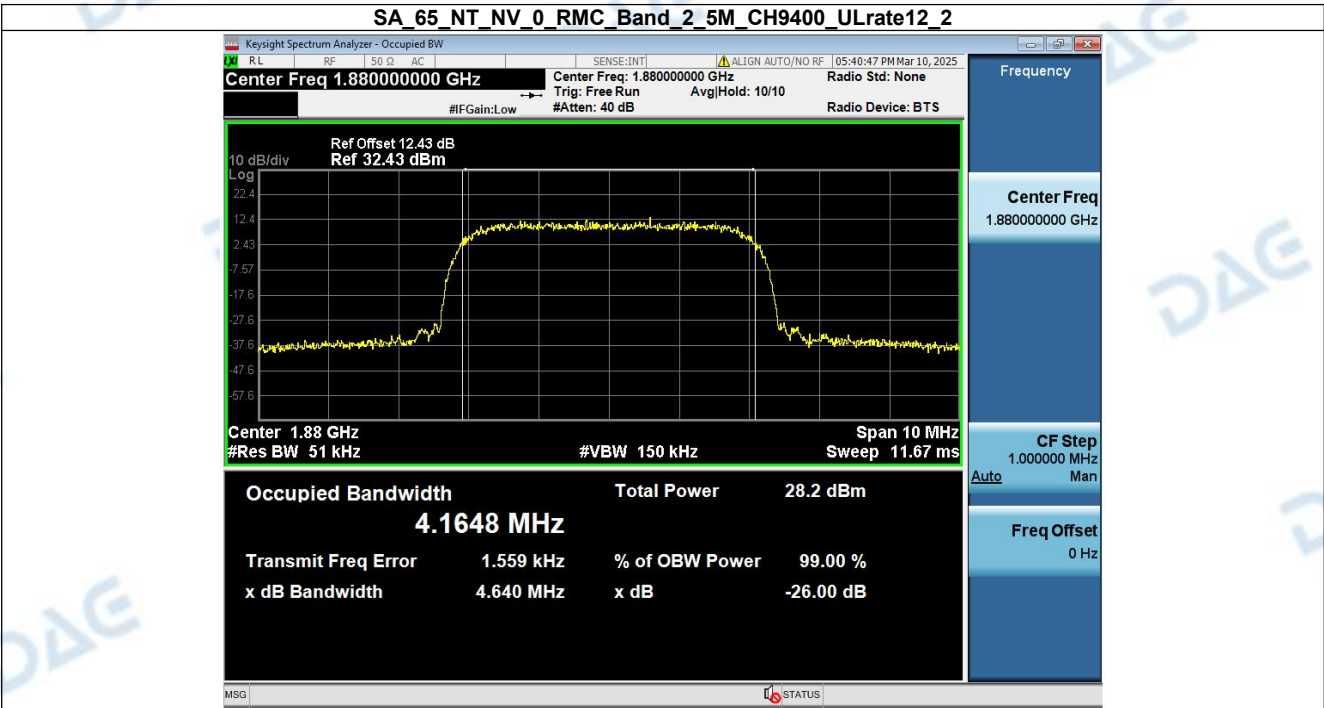
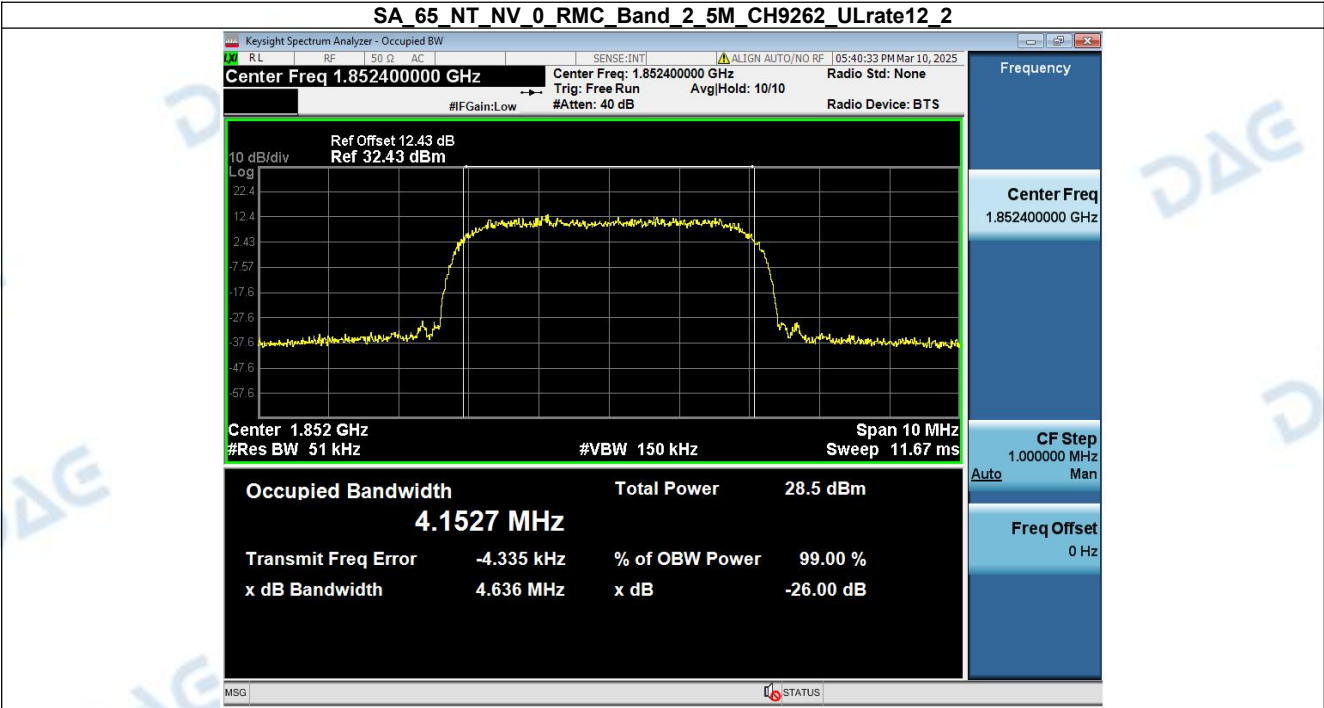
Condition	Mode	Band	Frequency (MHz)	UL Rate(kHz)	Conducted Power(dBm)	ANT Gain(dBi)	EIRP(dBm)	Conducted Power (mW)	EIRP(mW)	Limit (mW)	Result
NVNT	RMC	Band 2	1852.4	12.2	22.73	-0.6	22.13	187.50	163.31	2000	Pass
NVNT	RMC	Band 2	1880.0	12.2	22.75	-0.6	22.15	188.36	164.06	2000	Pass
NVNT	RMC	Band 2	1907.6	12.2	22.67	-0.6	22.07	184.93	161.06	2000	Pass

Condition	Mode	Band	Frequency (MHz)	UL Rate(kHz)	Conducted Power(dBm)	ANT Gain(dBi)	ERP (dBm)	Conducted Power (mW)	ERP(mW)	Limit (mW)	Result
NVNT	RMC	Band 5	826.4	12.2	20.94	-1	17.79	124.17	60.12	7000	Pass
NVNT	RMC	Band 5	836.6	12.2	21.1	-1	17.95	128.82	62.37	7000	Pass
NVNT	RMC	Band 5	846.6	12.2	21.23	-1	18.08	132.74	64.27	7000	Pass

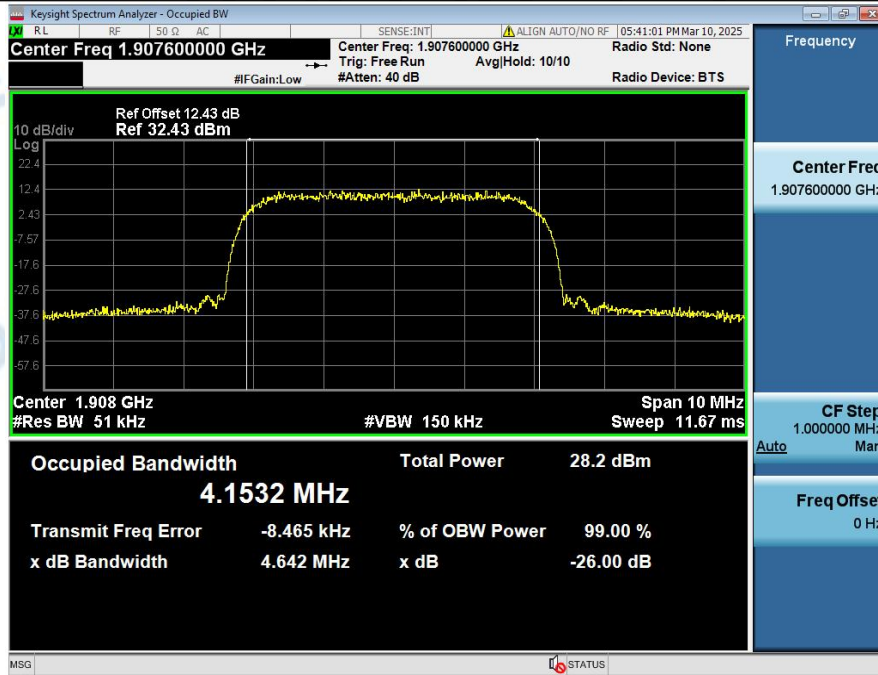
EIRP = Conducted Power + ANT Gain; ERP=EIRP-2.15dBi

3. Occupied Bandwidth

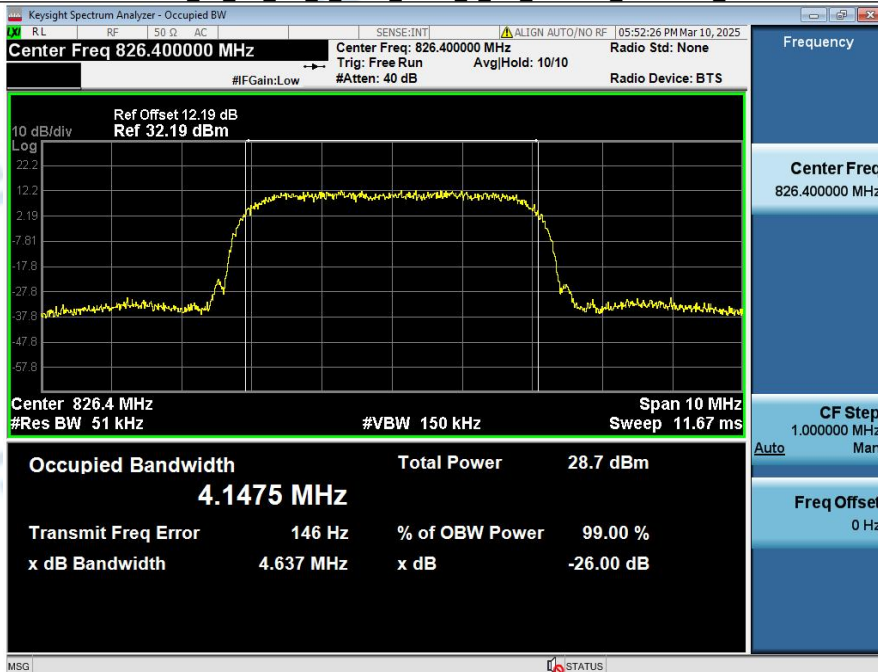
Condition	Mode	Band	Frequency(MHz)	Data Rate	OBW(MHz)	-26EBW(MHz)
NVNT	RMC	Band 2	1852.4	12.2	4.1527	4.6364
NVNT	RMC	Band 2	1880.0	12.2	4.1648	4.6395
NVNT	RMC	Band 2	1907.6	12.2	4.1532	4.6418
NVNT	RMC	Band 5	826.4	12.2	4.1475	4.6365
NVNT	RMC	Band 5	836.6	12.2	4.1622	4.6119
NVNT	RMC	Band 5	846.6	12.2	4.1564	4.6390



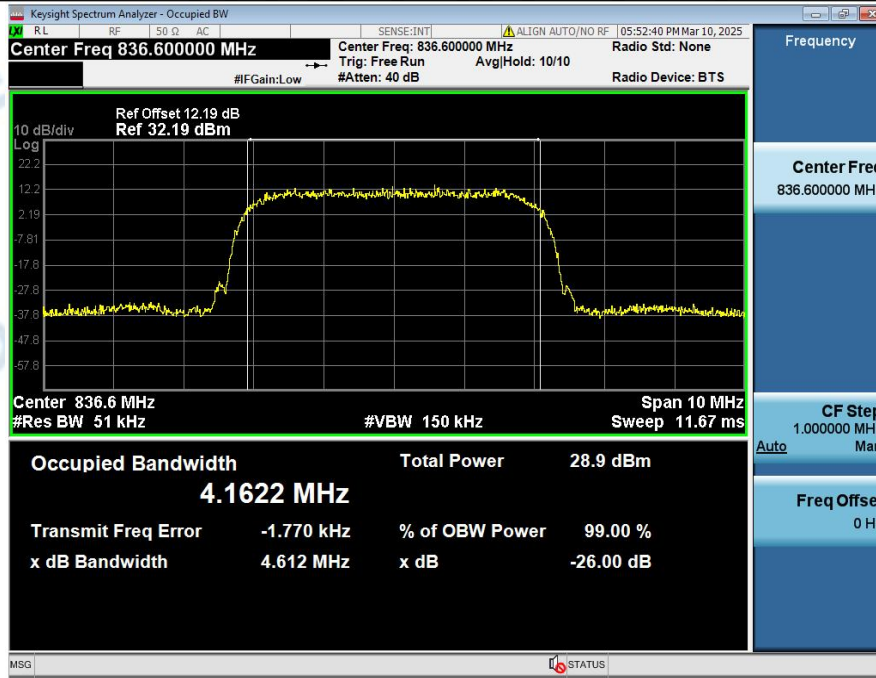
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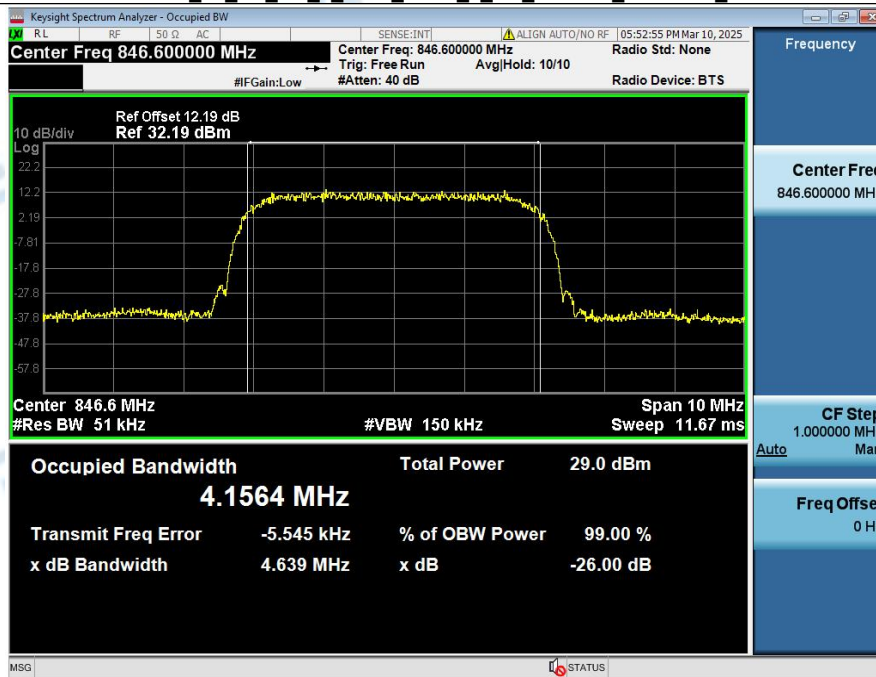
SA 65 NT_NV 0 RMC_Band 5_5M_CH4132_ULrate12 2



SA 65 NT NV 0 RMC Band 5 5M CH4183_ULrate12_2

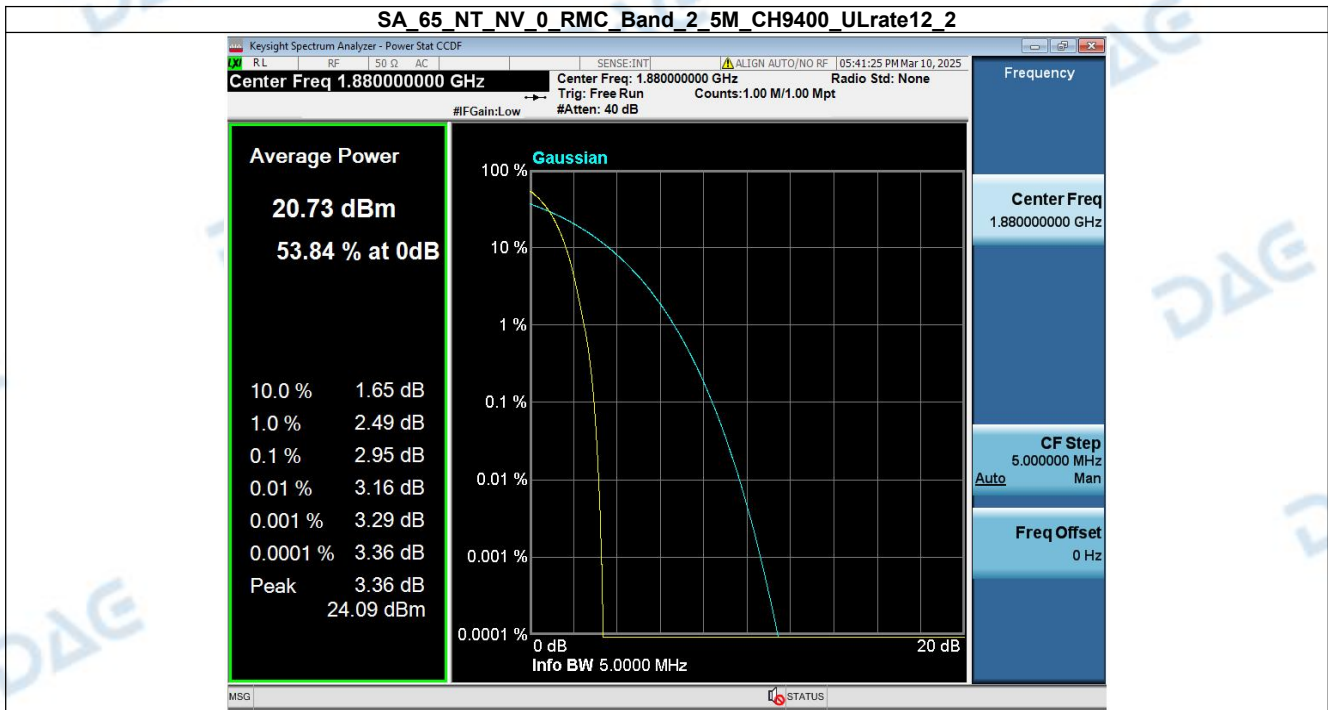


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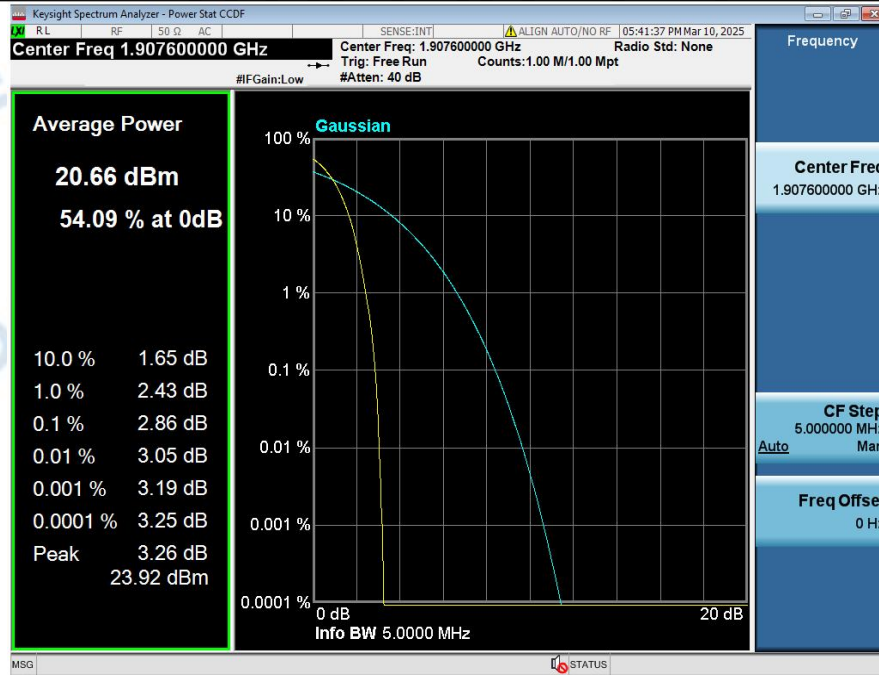


4. Peak to Average Ratio

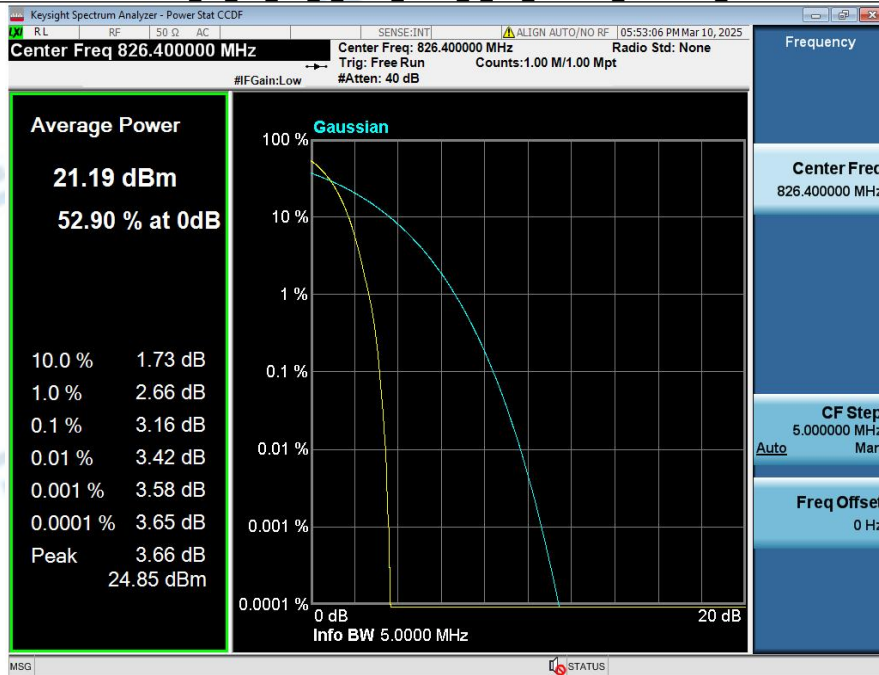
Condition	Mode	Band	Frequency(MHz)	Data Rate	Peak to AVG Ratio-0.1%(dB)
NVNT	RMC	Band 2	1852.4	12.2	2.94
NVNT	RMC	Band 2	1880.0	12.2	2.95
NVNT	RMC	Band 2	1907.6	12.2	2.86
NVNT	RMC	Band 5	826.4	12.2	3.16
NVNT	RMC	Band 5	836.6	12.2	3.06
NVNT	RMC	Band 5	846.6	12.2	3.04



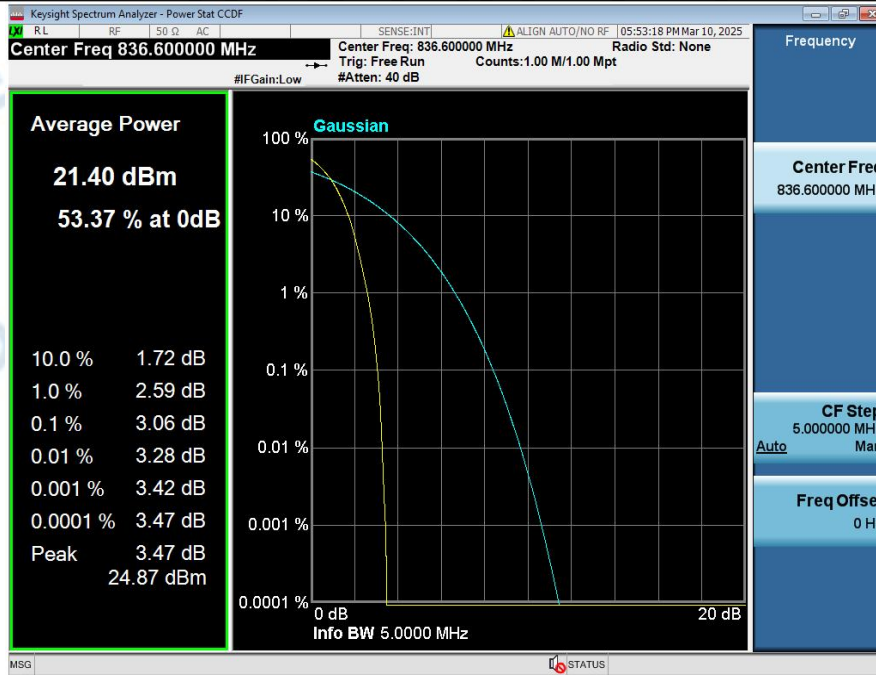
SA 65 NT NV 0 RMC Band 2 5M CH9538 ULrate12 2



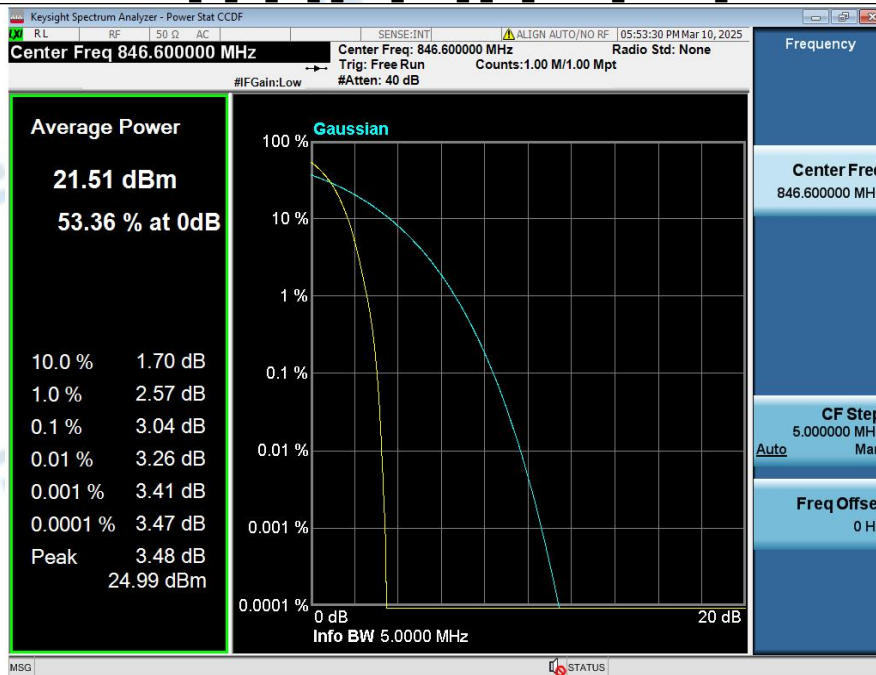
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SA 65_NT_NV_0_RMC_Band_5_5M_CH4183_ULrate12_2

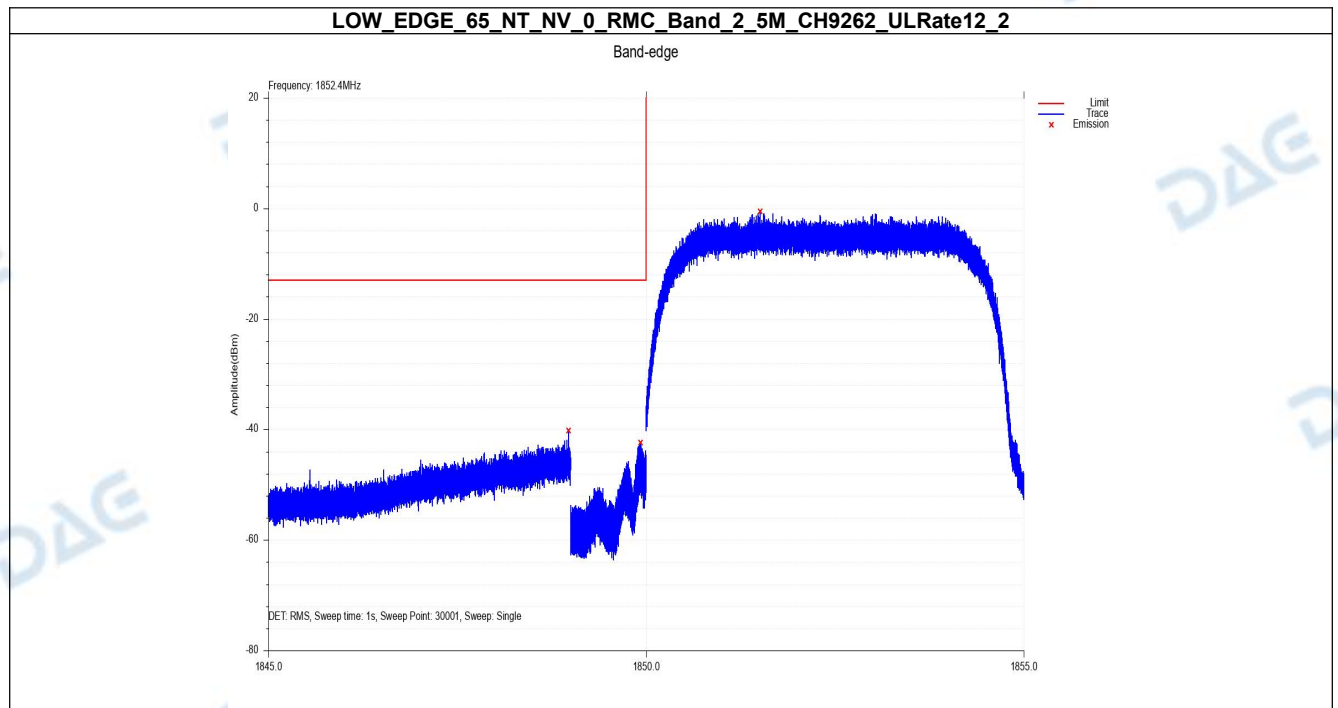


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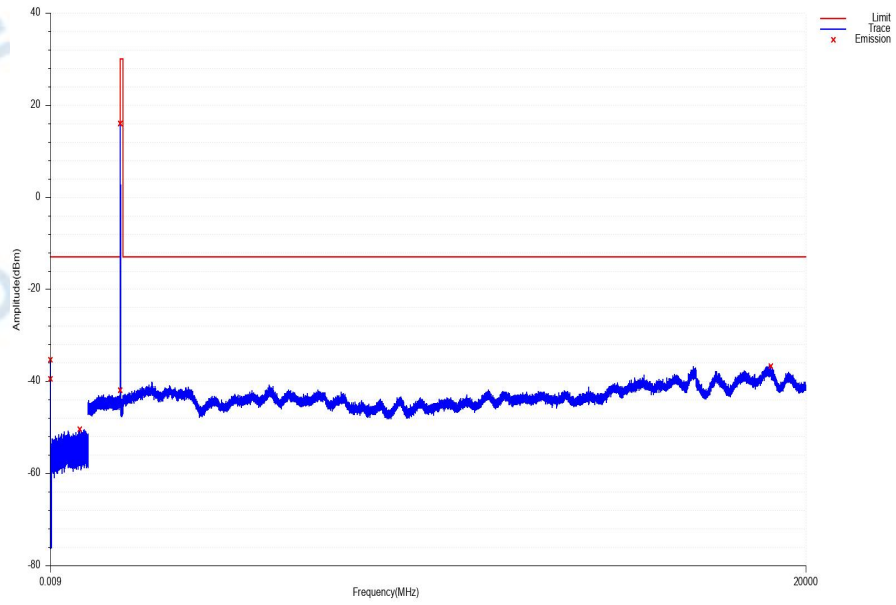
5. Unwanted Spurious Emission

Condition	Mode	Band	Frequency (MHz)	Data Rate	RBW (kHz)	Test Freq Range(MHz)	Spur Freq (MHz)	Spur Level(dBm)	Limit (dBm)	Result
NVNT	RMC	Band 2	1852.40	12.2	1000	1845.0~1849.0	1848.976	-40.20	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	50.0	1849.0~1850.0	1849.924	-42.33	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	1	0.009~0.150	0.010	-35.34	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	10	0.150~30.000	0.162	-39.42	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	100	30.000~1000.000	777.385	-50.41	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	1000	1000.000~1845.000	1844.803	-41.93	-13	Pass
NVNT	RMC	Band 2	1852.40	12.2	1000	1915.000~20000.000	19070.431	-36.75	-13	Pass
NVNT	RMC	Band 2	1880.00	12.2	1	0.009~0.150	0.010	-34.10	-13	Pass
NVNT	RMC	Band 2	1880.00	12.2	10	0.150~30.000	0.150	-38.70	-13	Pass
NVNT	RMC	Band 2	1880.00	12.2	100	30.000~1000.000	924.049	-50.74	-13	Pass
NVNT	RMC	Band 2	1880.00	12.2	1000	1000.000~1845.000	1688.788	-43.06	-13	Pass
NVNT	RMC	Band 2	1880.00	12.2	1000	1915.000~20000.000	18987.843	-36.45	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	50.0	1910.0~1911.0	1910.003	-42.57	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	1000	1911.0~1915.0	1911.460	-37.70	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	1	0.009~0.150	0.009	-35.33	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	10	0.150~30.000	0.157	-42.83	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	100	30.000~1000.000	737.324	-49.57	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	1000	1000.000~1845.000	1362.533	-42.85	-13	Pass
NVNT	RMC	Band 2	1907.60	12.2	1000	1915.000~20000.000	19036.672	-36.59	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	100	819.0~823.0	822.833	-44.47	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	50.0	823.0~824.0	823.951	-37.77	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	1	0.009~0.150	0.009	-34.64	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	10	0.150~30.000	0.163	-41.28	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	100	30.000~819.000	818.763	-46.36	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	100	854.000~1000.000	870.021	-50.49	-13	Pass
NVNT	RMC	Band 5	826.40	12.2	1000	1000.000~10000.000	2677.900	-40.74	-13	Pass
NVNT	RMC	Band 5	836.60	12.2	1	0.009~0.150	0.010	-33.50	-13	Pass
NVNT	RMC	Band 5	836.60	12.2	10	0.150~30.000	0.152	-42.51	-13	Pass
NVNT	RMC	Band 5	836.60	12.2	100	30.000~819.000	688.184	-50.71	-13	Pass
NVNT	RMC	Band 5	836.60	12.2	100	854.000~1000.000	901.980	-50.21	-13	Pass
NVNT	RMC	Band 5	836.60	12.2	1000	1000.000~10000.000	2662.300	-40.58	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	50.0	849.0~850.0	849.050	-40.22	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	100	850.0~854.0	850.123	-49.56	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	1	0.009~0.150	0.010	-34.42	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	10	0.150~30.000	0.150	-40.84	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	100	30.000~819.000	733.262	-50.29	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	100	854.000~1000.000	854.185	-47.23	-13	Pass
NVNT	RMC	Band 5	846.60	12.2	1000	1000.000~10000.000	2664.100	-40.55	-13	Pass



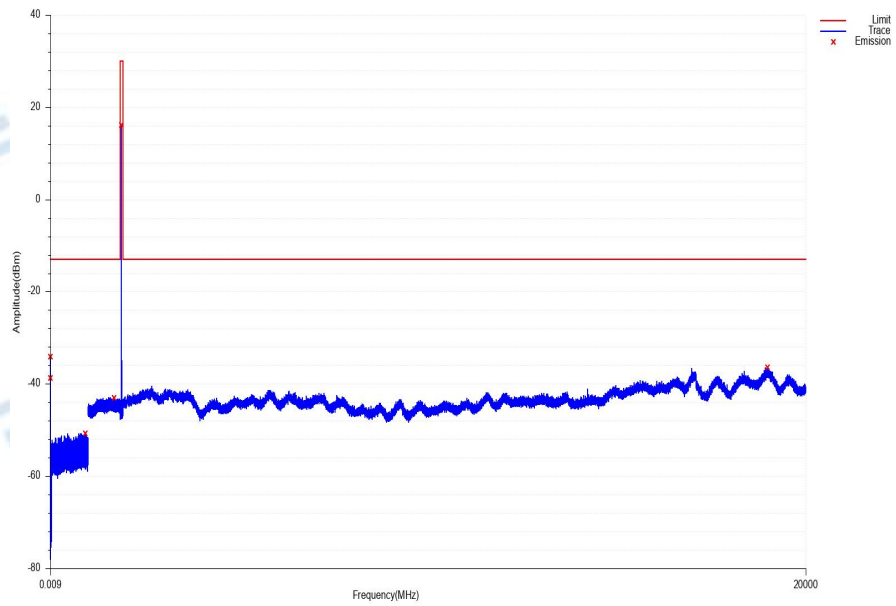
SA_65_NT_NV_0_RMC_Band_2_5M_CH9262_ULRate12_2

Unwanted spurious emissions

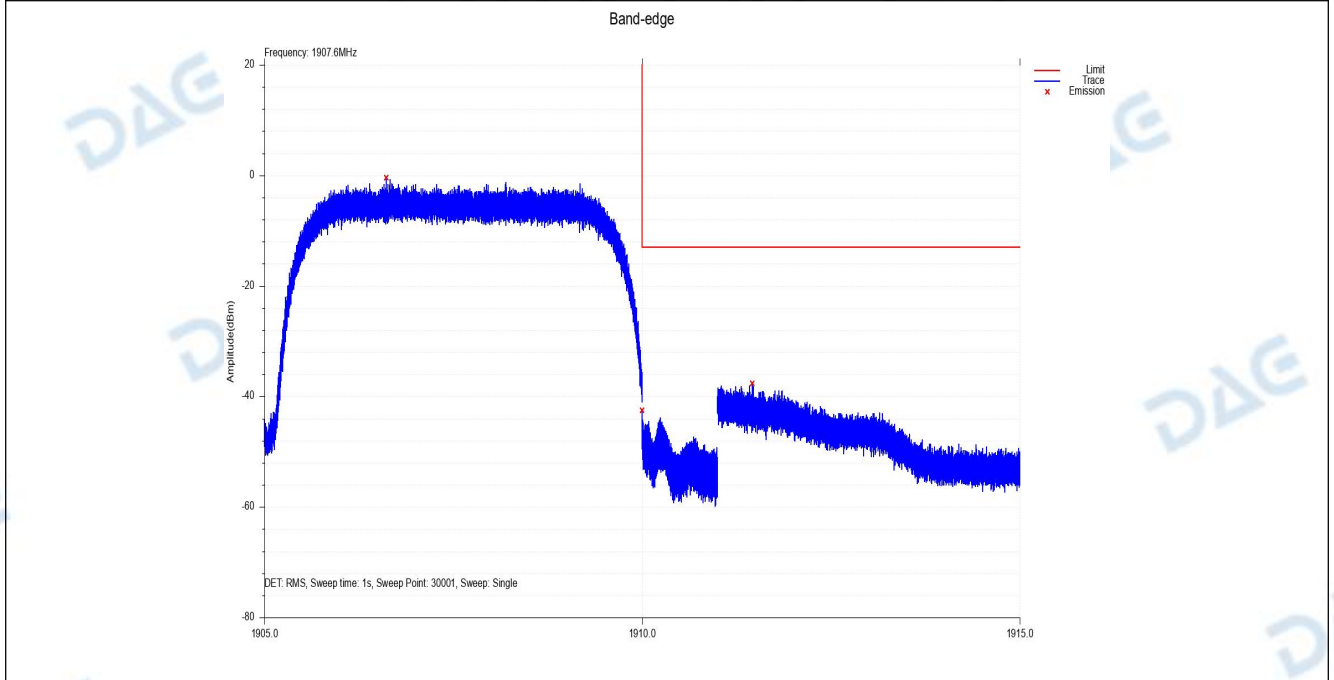


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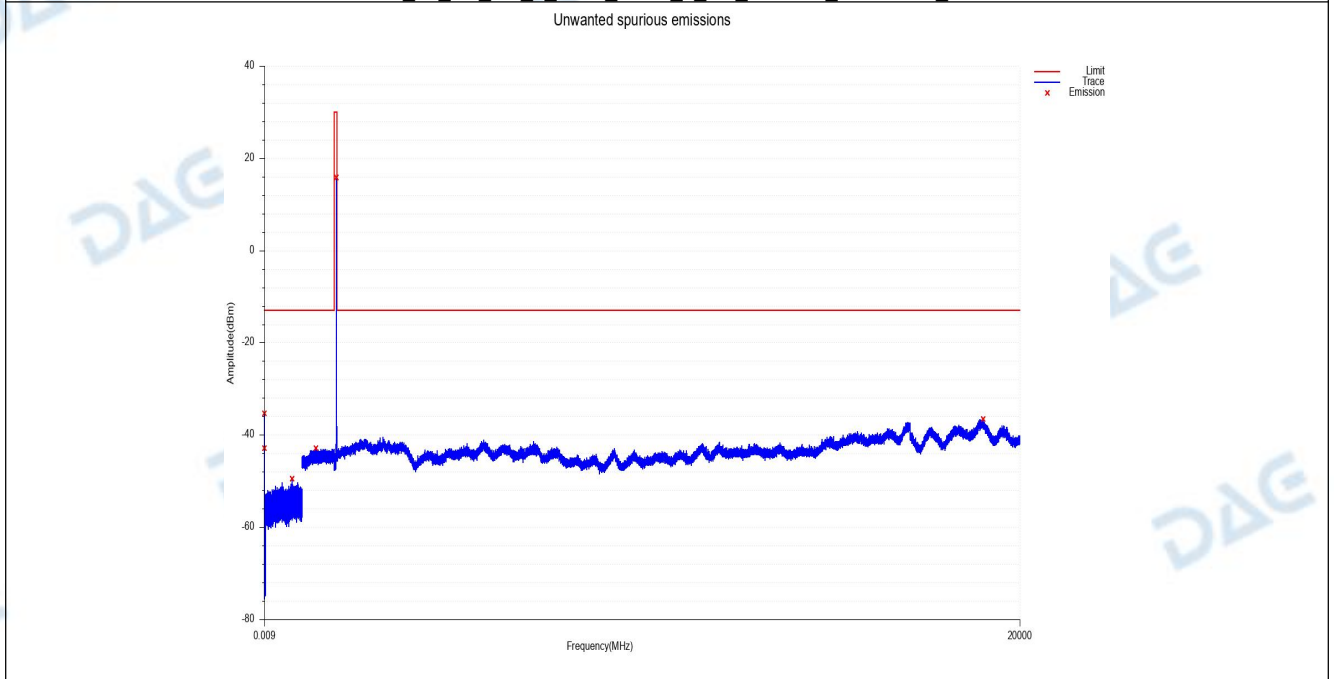
Unwanted spurious emissions

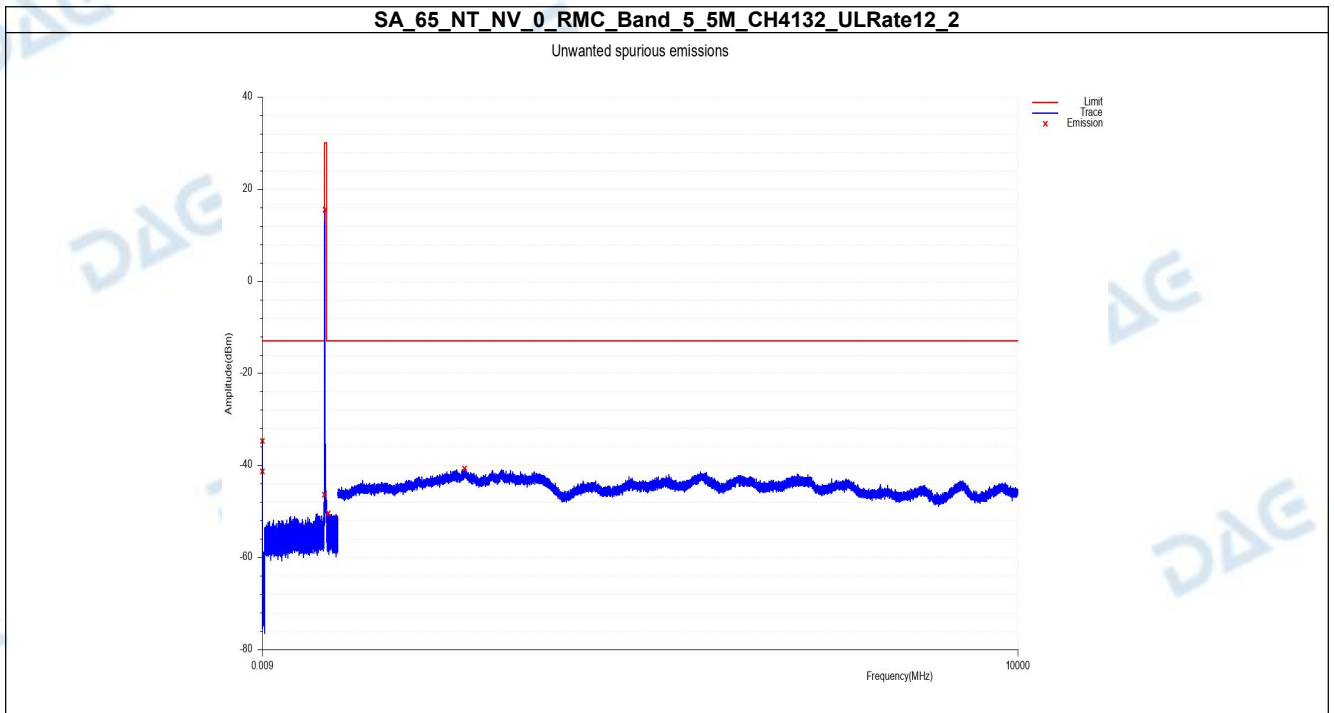
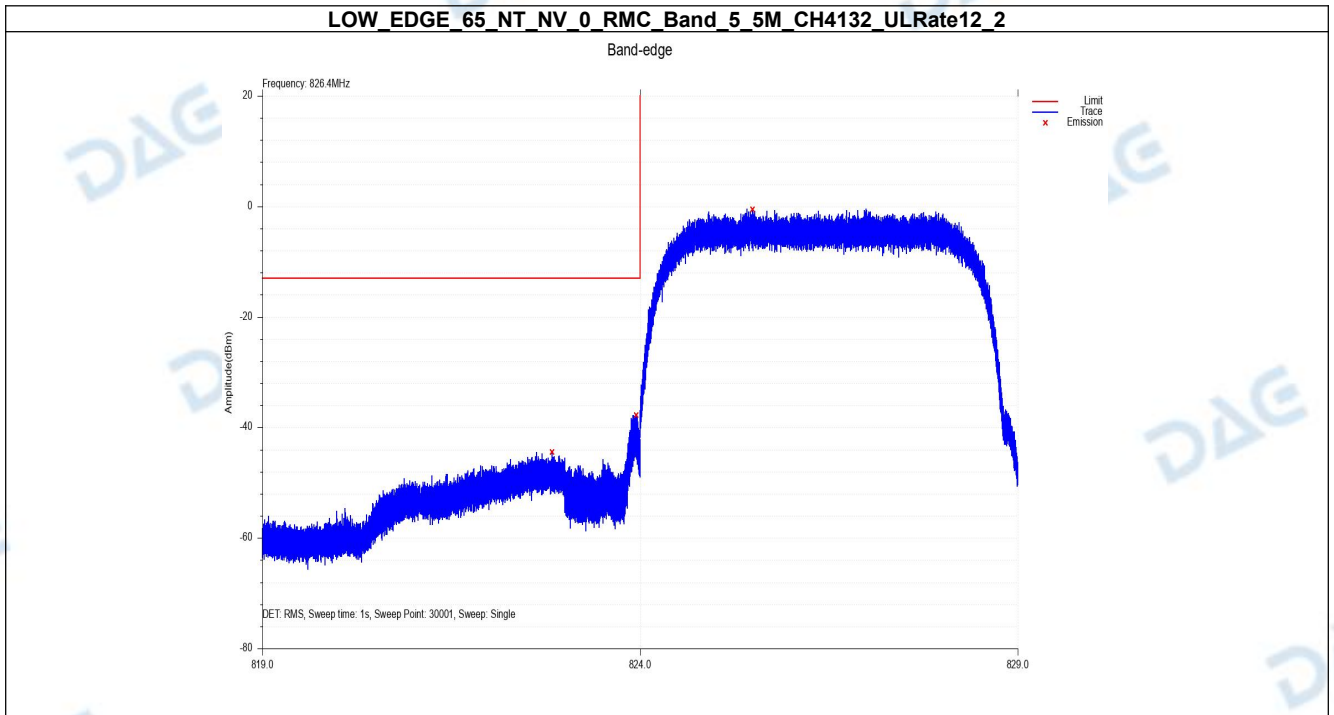


UPPER_EDGE_65_NT_NV_0_RMC_Band_2_5M_CH9538_ULRate12_2



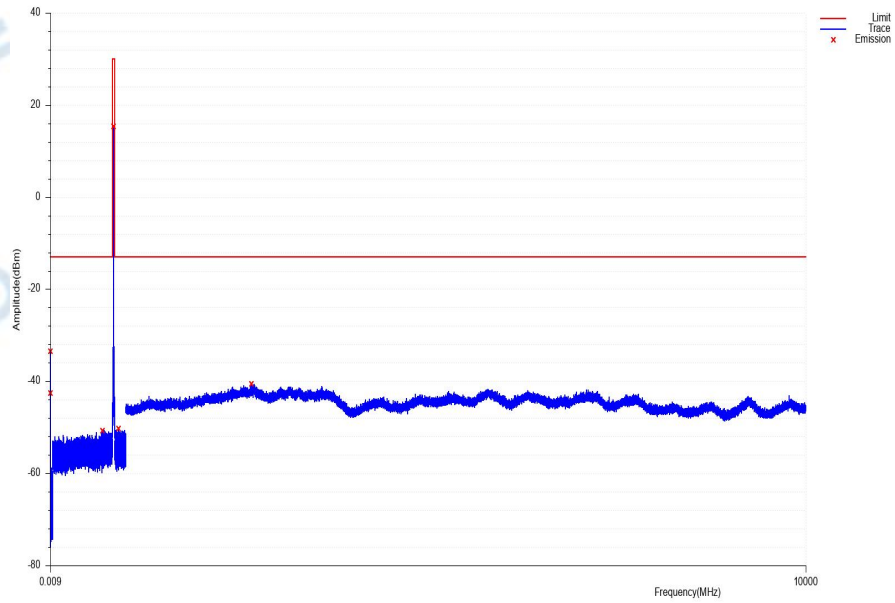
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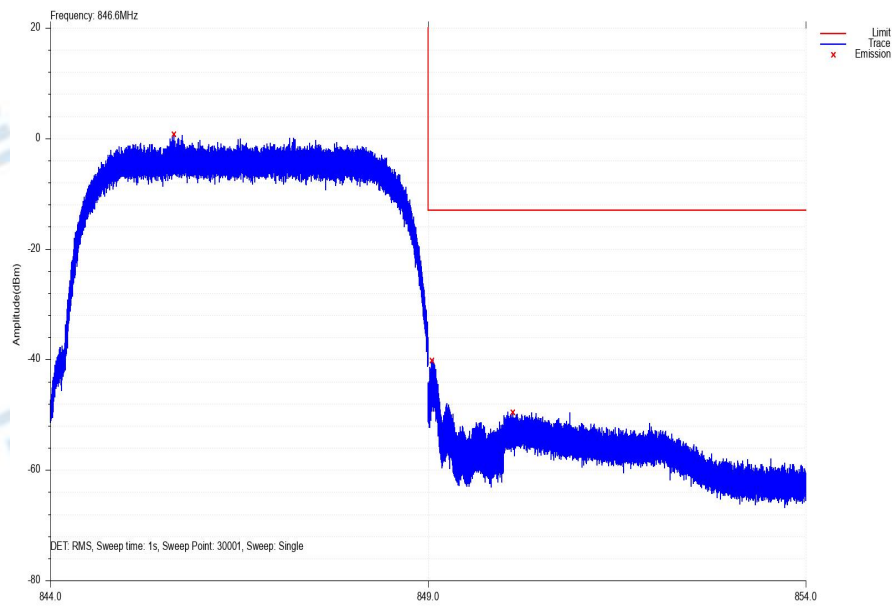
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Unwanted spurious emissions

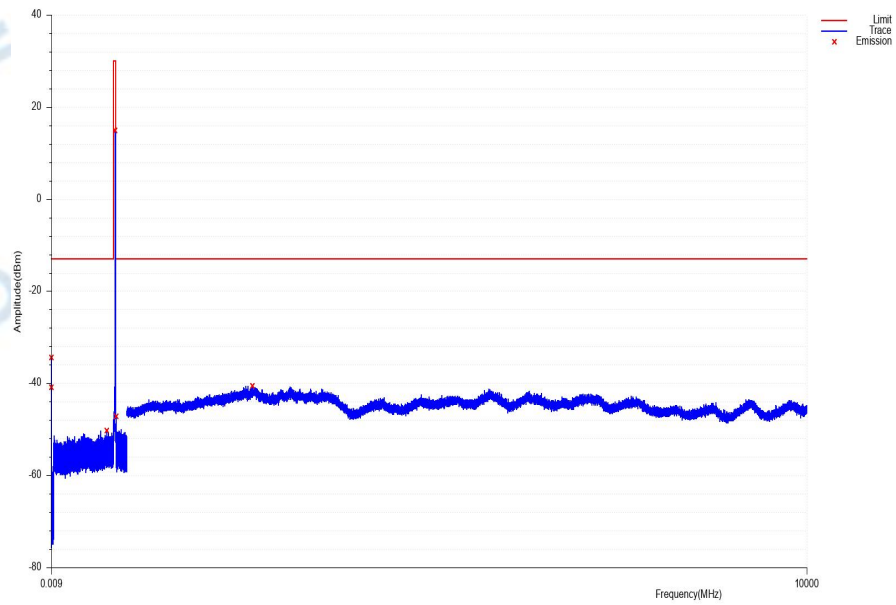


UPPER_EDGE_65_NT_NV_0_RMC_Band_5_5M_CH4233_ULRate12_2

Band-edge



Unwanted spurious emissions



6. Frequency Stability

Condition	Modulation	Band	Frequency(MHz)	Data Rate(kHz)	Freq. S (Hz)	Freq. S (ppm)	Limit(ppm)	Result
NV_NT	RMC	Band 2	1852.4	12.2	0.52	0.0003	-2.5~2.5	Pass
NV_50C	RMC	Band 2	1852.4	12.2	8.30	0.0045	-2.5~2.5	Pass
NV_40C	RMC	Band 2	1852.4	12.2	-9.48	-0.0051	-2.5~2.5	Pass
NV_30C	RMC	Band 2	1852.4	12.2	0.49	0.0003	-2.5~2.5	Pass
NV_20C	RMC	Band 2	1852.4	12.2	-2.83	-0.0015	-2.5~2.5	Pass
NV_10C	RMC	Band 2	1852.4	12.2	-2.96	-0.0016	-2.5~2.5	Pass
NV_0C	RMC	Band 2	1852.4	12.2	-0.46	-0.0003	-2.5~2.5	Pass
NV_-10C	RMC	Band 2	1852.4	12.2	1.54	0.0008	-2.5~2.5	Pass
NV_-20C	RMC	Band 2	1852.4	12.2	2.75	0.0015	-2.5~2.5	Pass
LV_NT	RMC	Band 2	1852.4	12.2	-1.70	-0.0009	-2.5~2.5	Pass
HV_NT	RMC	Band 2	1852.4	12.2	3.92	0.0021	-2.5~2.5	Pass
NV_NT	RMC	Band 2	1880.0	12.2	2.65	0.0014	-2.5~2.5	Pass
NV_50C	RMC	Band 2	1880.0	12.2	4.79	0.0025	-2.5~2.5	Pass
NV_40C	RMC	Band 2	1880.0	12.2	1.06	0.0006	-2.5~2.5	Pass
NV_30C	RMC	Band 2	1880.0	12.2	3.99	0.0021	-2.5~2.5	Pass
NV_20C	RMC	Band 2	1880.0	12.2	-9.67	-0.0051	-2.5~2.5	Pass
NV_10C	RMC	Band 2	1880.0	12.2	-5.02	-0.0027	-2.5~2.5	Pass
NV_0C	RMC	Band 2	1880.0	12.2	0.84	0.0004	-2.5~2.5	Pass
NV_-10C	RMC	Band 2	1880.0	12.2	4.18	0.0022	-2.5~2.5	Pass
NV_-20C	RMC	Band 2	1880.0	12.2	10.20	0.0054	-2.5~2.5	Pass
LV_NT	RMC	Band 2	1880.0	12.2	-3.10	-0.0017	-2.5~2.5	Pass
HV_NT	RMC	Band 2	1880.0	12.2	-4.53	-0.0024	-2.5~2.5	Pass
NV_NT	RMC	Band 2	1907.6	12.2	-1.24	-0.0006	-2.5~2.5	Pass
NV_50C	RMC	Band 2	1907.6	12.2	5.92	0.0031	-2.5~2.5	Pass
NV_40C	RMC	Band 2	1907.6	12.2	-5.14	-0.0027	-2.5~2.5	Pass
NV_30C	RMC	Band 2	1907.6	12.2	-6.04	-0.0032	-2.5~2.5	Pass
NV_20C	RMC	Band 2	1907.6	12.2	1.95	0.0010	-2.5~2.5	Pass
NV_10C	RMC	Band 2	1907.6	12.2	-4.07	-0.0021	-2.5~2.5	Pass
NV_0C	RMC	Band 2	1907.6	12.2	-8.43	-0.0044	-2.5~2.5	Pass
NV_-10C	RMC	Band 2	1907.6	12.2	-3.28	-0.0017	-2.5~2.5	Pass
NV_-20C	RMC	Band 2	1907.6	12.2	-1.54	-0.0008	-2.5~2.5	Pass
LV_NT	RMC	Band 2	1907.6	12.2	4.00	0.0021	-2.5~2.5	Pass
HV_NT	RMC	Band 2	1907.6	12.2	3.43	0.0018	-2.5~2.5	Pass
NV_NT	RMC	Band 5	826.4	12.2	0.35	0.0004	-2.5~2.5	Pass
NV_50C	RMC	Band 5	826.4	12.2	-0.16	-0.0002	-2.5~2.5	Pass
NV_40C	RMC	Band 5	826.4	12.2	3.24	0.0039	-2.5~2.5	Pass
NV_30C	RMC	Band 5	826.4	12.2	2.07	0.0025	-2.5~2.5	Pass
NV_20C	RMC	Band 5	826.4	12.2	1.33	0.0016	-2.5~2.5	Pass
NV_10C	RMC	Band 5	826.4	12.2	1.09	0.0013	-2.5~2.5	Pass
NV_0C	RMC	Band 5	826.4	12.2	-0.14	-0.0002	-2.5~2.5	Pass
NV_-10C	RMC	Band 5	826.4	12.2	-1.49	-0.0018	-2.5~2.5	Pass
NV_-20C	RMC	Band 5	826.4	12.2	0.34	0.0004	-2.5~2.5	Pass
LV_NT	RMC	Band 5	826.4	12.2	-0.41	-0.0005	-2.5~2.5	Pass
HV_NT	RMC	Band 5	826.4	12.2	3.23	0.0039	-2.5~2.5	Pass
NV_NT	RMC	Band 5	836.6	12.2	-1.09	-0.0013	-2.5~2.5	Pass
NV_50C	RMC	Band 5	836.6	12.2	-2.31	-0.0028	-2.5~2.5	Pass
NV_40C	RMC	Band 5	836.6	12.2	1.63	0.0019	-2.5~2.5	Pass
NV_30C	RMC	Band 5	836.6	12.2	-1.43	-0.0017	-2.5~2.5	Pass
NV_20C	RMC	Band 5	836.6	12.2	-2.34	-0.0028	-2.5~2.5	Pass
NV_10C	RMC	Band 5	836.6	12.2	0.87	0.0010	-2.5~2.5	Pass
NV_0C	RMC	Band 5	836.6	12.2	-1.04	-0.0012	-2.5~2.5	Pass
NV_-10C	RMC	Band 5	836.6	12.2	-0.55	-0.0007	-2.5~2.5	Pass
NV_-20C	RMC	Band 5	836.6	12.2	0.35	0.0004	-2.5~2.5	Pass
LV_NT	RMC	Band 5	836.6	12.2	-0.40	-0.0005	-2.5~2.5	Pass
HV_NT	RMC	Band 5	836.6	12.2	0.53	0.0006	-2.5~2.5	Pass
NV_NT	RMC	Band 5	846.6	12.2	-0.72	-0.0009	-2.5~2.5	Pass
NV_50C	RMC	Band 5	846.6	12.2	1.48	0.0017	-2.5~2.5	Pass
NV_40C	RMC	Band 5	846.6	12.2	0.74	0.0009	-2.5~2.5	Pass
NV_30C	RMC	Band 5	846.6	12.2	0.30	0.0004	-2.5~2.5	Pass
NV_20C	RMC	Band 5	846.6	12.2	0.69	0.0008	-2.5~2.5	Pass
NV_10C	RMC	Band 5	846.6	12.2	-0.98	-0.0012	-2.5~2.5	Pass
NV_0C	RMC	Band 5	846.6	12.2	-1.70	-0.0020	-2.5~2.5	Pass
NV_-10C	RMC	Band 5	846.6	12.2	-0.18	-0.0002	-2.5~2.5	Pass
NV_-20C	RMC	Band 5	846.6	12.2	-1.53	-0.0018	-2.5~2.5	Pass
LV_NT	RMC	Band 5	846.6	12.2	-0.54	-0.0006	-2.5~2.5	Pass
HV_NT	RMC	Band 5	846.6	12.2	1.65	0.0020	-2.5~2.5	Pass